

**CALIFORNIA TOXICS RULE  
RESPONSE TO COMMENTS REPORT**

**VOLUME I**

December 1999

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CTR Responses to Comments - Sorted by Subject Matter Code

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A Anti-degradation	CTR-002-010a	B Comment Period	CTR-096-005
A Anti-degradation	CTR-026-001a	B Comment Period	CTRE-001-001a
A Anti-degradation	CTR-029-001	B Comment Period	CTRE-001-002
A Anti-degradation	CTR-029-002c	B Comment Period	CTRE-002-001
A Anti-degradation	CTR-039-002	B Comment Period	CTRE-002-005
A Anti-degradation	CTR-039-003b	B Comment Period	CTRE-003-001a
A Anti-degradation	CTR-065-002a	B Comment Period	CTRE-003-001b
A Anti-degradation	CTRH-001-015	B Comment Period	CTRE-004-001a
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B Comment Period	CTR-005-002	B Comment Period	CTRE-007-001
B Comment Period	CTR-007-005	B Comment Period	CTRE-008-001
B Comment Period	CTR-021-001	B Comment Period	CTRE-009-001
B Comment Period	CTR-025-006a	B Comment Period	CTRE-010-001
B Comment Period	CTR-031-008a	B Comment Period	CTRE-011-001
B Comment Period	CTR-034-001	B Comment Period	CTRE-012-001
B Comment Period	CTR-035-001	B Comment Period	CTRE-013-001
B Comment Period	CTR-052-001	B Comment Period	CTRE-014-001
B Comment Period	CTR-052-013	B Comment Period	CTRE-015-001
B Comment Period	CTR-054-001	B Comment Period	CTRE-016-001
B Comment Period	CTR-056-001	B Comment Period	CTRE-017-001
B Comment Period	CTR-057-002	B Comment Period	CTRE-018-001
B Comment Period	CTR-001-001	B Comment Period	CTRE-019-001
B Comment Period	CTR-038-001	B Comment Period	CTRE-020-001
B Comment Period	CTR-041-001	B Comment Period	CTRE-021-001
B Comment Period	CTR-037-004	B Comment Period	CTRE-022-001
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CTR Responses to Comments - Sorted by Subject Matter Code

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C-01 Mercury	CTR-020-004a	C-02b Copper Aquatic Life	CTR-025-004a
C-01 Mercury	CTR-020-004b	C-02b Copper Aquatic Life	CTR-033-001
C-01 Mercury	CTR-027-012c	C-02b Copper Aquatic Life	CTR-053-003b
C-01 Mercury	CTR-030-006	C-02b Copper Aquatic Life	CTR-054-008a
C-01 Mercury	CTR-030-007	C-02b Copper Aquatic Life	CTR-060-013
C-01 Mercury	CTR-032-006a	C-02b Copper Aquatic Life	CTR-064-001
C-01 Mercury	CTR-035-002b	C-02b Copper Aquatic Life	CTR-065-007
C-01 Mercury	CTR-035-026	C-02b Copper Aquatic Life	CTR-092-013b
C-01 Mercury	CTR-038-002c	C-02b Copper Aquatic Life	CTRH-001-014
C-01 Mercury	CTR-039-005	C-03b Nickel Aquatic Life	CTR-063-001
C-01 Mercury	CTR-040-002b	C-03b Nickel Aquatic Life	CTR-092-012a
C-01 Mercury	CTR-041-004	C-04b Selenium Aquatic Life	CTR-008-001
C-01 Mercury	CTR-041-007a	C-04b Selenium Aquatic Life	CTR-009-005
C-01 Mercury	CTR-043-002c	C-04b Selenium Aquatic Life	CTR-016-005
C-01 Mercury	CTR-044-003c	C-04b Selenium Aquatic Life	CTR-030-005
C-01 Mercury	CTR-045-006	C-04b Selenium Aquatic Life	CTR-030-011
C-01 Mercury	CTR-051-003a	C-04b Selenium Aquatic Life	CTR-030-012
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C-01 Mercury	CTR-066-008	C-05b Lead Aquatic Life	CTR-020-013
C-01 Mercury	CTR-081-002f	C-06b Chromium Aquatic Life	CTR-061-013
C-01 Mercury	CTR-085-009	C-07b Cyanide Aquatic Life	CTR-058-013
C-01 Mercury	CTR-086-002	C-07b Cyanide Aquatic Life	CTR-092-012b
C-01 Mercury	CTR-089-001b	C-08a Arsenic Human Health	CTR-020-007
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C-01 Mercury	CTRH-001-003c	C-08a Arsenic Human Health	CTR-059-007
C-01 Mercury	CTRH-001-013	C-08a Arsenic Human Health	CTR-081-002g
C-01 Mercury	CTRH-001-018a	C-08a Arsenic Human Health	CTR-085-010
C-01 Mercury	CTRH-001-018b	C-08a Arsenic Human Health	CTR-089-001c
C-01 Mercury	CTRH-001-050a	C-08a Arsenic Human Health	CTR-066-009
C-01 Mercury	CTRH-001-062	C-09a Dioxin Human Health	CTR-002-006
C-01 Mercury	CTRH-001-063	C-09a Dioxin Human Health	CTR-016-008
C-02b Copper Aquatic Life	CTR-002-008	C-09a Dioxin Human Health	CTR-035-024

CTR Responses to Comments - Sorted by Subject Matter Code

<b>Subject Matter Code</b>	<b>Comment ID</b>		
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C-09a Dioxin Human Health	CTR-058-012	C-14 Fish or Water Consumption	CTR-002-005a
C-09a Dioxin Human Health	CTR-095-003	C-14 Fish or Water Consumption	CTR-006-002b
C-09a Dioxin Human Health	CTR-097-003	C-14 Fish or Water Consumption	CTR-010-002
C-09a Dioxin Human Health	CTR-104-004a	C-14 Fish or Water Consumption	CTR-015-001
C-09a Dioxin Human Health	CTR-106-004a	C-14 Fish or Water Consumption	CTR-026-007a
C-09a Dioxin Human Health	CTR-109-003	C-14 Fish or Water Consumption	CTR-029-003
C-09a Dioxin Human Health	CTR-110-002	C-14 Fish or Water Consumption	CTR-035-022
C-09a Dioxin Human Health	CTRH-001-012	C-14 Fish or Water Consumption	CTR-060-015
C-09a Dioxin Human Health	CTRH-001-051	C-14 Fish or Water Consumption	CTR-039-004
C-10b PCBs Aquatic Life	CTR-037-010	C-14 Fish or Water Consumption	CTR-065-003a
C-11b PAHs Aquatic Life	CTR-060-014	C-14 Fish or Water Consumption	CTR-095-001d
C-12a THMs Human Health	CTR-020-018	C-14 Fish or Water Consumption	CTR-097-001b
C-12a THMs Human Health	CTR-025-003c	C-14 Fish or Water Consumption	CTR-098-001
C-12a THMs Human Health	CTR-059-008	C-14 Fish or Water Consumption	CTR-099-002
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C-12a THMs Human Health	CTR-090-022	C-14 Fish or Water Consumption	CTR-102-002
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C-13 Risk Level	CTR-060-016	C-15 Salinity	CTR-058-004
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C-13 Risk Level	CTR-044-007a	C-16 SDWA	CTR-025-001a
C-13 Risk Level	CTR-049-003	C-16 SDWA	CTR-025-002b
C-13 Risk Level	CTR-050-006	C-16 SDWA	CTR-025-003b
C-13 Risk Level	CTR-058-001	C-16 SDWA	CTR-025-004b
C-13 Risk Level	CTR-081-003	C-16 SDWA	CTR-025-006b
C-13 Risk Level	CTR-082-004	C-17 Methodologies	CTR-061-005b
C-13 Risk Level	CTR-085-013	C-17 Methodologies	CTR-061-008
C-13 Risk Level	CTR-090-013	C-17 Methodologies	CTR-061-009
C-13 Risk Level	CTR-066-011	C-17 Methodologies	CTR-061-010
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C-13 Risk Level	CTRH-001-026	C-17a Methodologies Human Health	CTR-002-004a
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C-13 Risk Level	CTRH-002-013	C-17a Methodologies Human Health	CTR-025-003a

CTR Responses to Comments - Sorted by Subject Matter Code

<b>Subject Matter Code</b>	<b>Comment ID</b>		
C-17a Methodologies Human Health	CTR-026-003b	C-20 Scope Prty Toxic Poll. List	CTRH-001-016
C-17a Methodologies Human Health	CTR-026-007b	C-21 Legal Concerns	CTR-002-005b
C-17a Methodologies Human Health	CTR-029-002a	C-21 Legal Concerns	CTR-002-009
C-17a Methodologies Human Health	CTR-031-002b	C-21 Legal Concerns	CTR-005-006a
C-17a Methodologies Human Health	CTR-031-004a	C-21 Legal Concerns	CTR-005-008b
C-17a Methodologies Human Health	CTR-057-007	C-21 Legal Concerns	CTR-007-004
C-17a Methodologies Human Health	CTR-037-003b	C-21 Legal Concerns	CTR-010-003
C-17a Methodologies Human Health	CTR-090-002a	C-21 Legal Concerns	CTR-020-002
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C-17a Methodologies Human Health	CTR-095-001b	C-21 Legal Concerns	CTR-035-012a
C-17a Methodologies Human Health	CTR-097-001a	C-21 Legal Concerns	CTR-052-021a
C-17a Methodologies Human Health	CTR-099-001a	C-21 Legal Concerns	CTR-054-014
C-17a Methodologies Human Health	CTR-102-001a	C-21 Legal Concerns	CTR-055-002a
C-17a Methodologies Human Health	CTR-104-004b	C-21 Legal Concerns	CTR-038-006a
C-17a Methodologies Human Health	CTR-105-002a	C-21 Legal Concerns	CTR-040-011
C-17a Methodologies Human Health	CTR-106-004b	C-21 Legal Concerns	CTR-040-016b
C-17a Methodologies Human Health	CTR-110-001	C-21 Legal Concerns	CTR-042-007a
C-17a Methodologies Human Health	CTRH-001-024e	C-21 Legal Concerns	CTR-036-005
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C-17b Methodologies Aquatic Life	CTR-026-002a	C-21 Legal Concerns	CTR-050-001
C-17b Methodologies Aquatic Life	CTR-026-003a	C-21 Legal Concerns	CTR-050-002
C-17b Methodologies Aquatic Life	CTR-029-002b	C-21 Legal Concerns	CTR-050-003
C-17b Methodologies Aquatic Life	CTR-031-002c	C-21 Legal Concerns	CTR-050-004
C-17b Methodologies Aquatic Life	CTR-031-004b	C-21 Legal Concerns	CTR-050-007a
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C-17b Methodologies Aquatic Life	CTR-037-003a	C-21 Legal Concerns	CTR-043-005a
C-17b Methodologies Aquatic Life	CTR-065-002c	C-21 Legal Concerns	CTR-041-014
C-17b Methodologies Aquatic Life	CTR-065-004	C-21 Legal Concerns	CTR-095-001c
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C-18 Conversion Factors	CTR-035-017	C-21 Legal Concerns	CTR-054-048
C-19 FDA Action Levels	CTR-016-006	C-21 Legal Concerns	CTRH-001-010
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		C-22 Dissolved v. Ttl Recoverable	CTR-052-002a

CTR Responses to Comments - Sorted by Subject Matter Code

<b>Subject Matter Code</b>	<b>Comment ID</b>		
C-22 Dissolved v. Ttl Recoverable	CTR-054-002a	C-24 Site Specific Criteria	CTR-026-006
C-22 Dissolved v. Ttl Recoverable	CTR-056-005	C-24 Site Specific Criteria	CTR-032-006b
C-22 Dissolved v. Ttl Recoverable	CTR-057-006	C-24 Site Specific Criteria	CTR-035-014
C-22 Dissolved v. Ttl Recoverable	CTR-038-002a	C-24 Site Specific Criteria	CTR-052-008
C-22 Dissolved v. Ttl Recoverable	CTR-039-003a	C-24 Site Specific Criteria	CTR-052-017
C-22 Dissolved v. Ttl Recoverable	CTR-041-002	C-24 Site Specific Criteria	CTR-053-006
C-22 Dissolved v. Ttl Recoverable	CTR-041-007b	C-24 Site Specific Criteria	CTR-054-008b
C-22 Dissolved v. Ttl Recoverable	CTR-042-006	C-24 Site Specific Criteria	CTR-056-015b
C-22 Dissolved v. Ttl Recoverable	CTR-044-003a	C-24 Site Specific Criteria	CTR-057-010c
C-22 Dissolved v. Ttl Recoverable	CTR-045-004	C-24 Site Specific Criteria	CTR-057-011
C-22 Dissolved v. Ttl Recoverable	CTR-058-003	C-24 Site Specific Criteria	CTR-060-006
C-22 Dissolved v. Ttl Recoverable	CTR-067-002	C-24 Site Specific Criteria	CTR-038-007
C-22 Dissolved v. Ttl Recoverable	CTR-077-003	C-24 Site Specific Criteria	CTR-038-008a
C-22 Dissolved v. Ttl Recoverable	CTR-081-002d	C-24 Site Specific Criteria	CTR-039-001
C-22 Dissolved v. Ttl Recoverable	CTR-082-003	C-24 Site Specific Criteria	CTR-039-009
C-22 Dissolved v. Ttl Recoverable	CTR-085-006	C-24 Site Specific Criteria	CTR-040-050
C-22 Dissolved v. Ttl Recoverable	CTR-086-004b	C-24 Site Specific Criteria	CTR-037-001a
C-22 Dissolved v. Ttl Recoverable	CTR-089-001a	C-24 Site Specific Criteria	CTR-044-007b
C-22 Dissolved v. Ttl Recoverable	CTR-090-002c	C-24 Site Specific Criteria	CTR-050-005a
C-22 Dissolved v. Ttl Recoverable	CTR-065-005	C-24 Site Specific Criteria	CTR-051-001
C-22 Dissolved v. Ttl Recoverable	CTR-066-005	C-24 Site Specific Criteria	CTR-086-004e
C-22 Dissolved v. Ttl Recoverable	CTR-066-019	C-24 Site Specific Criteria	CTR-090-018
C-22 Dissolved v. Ttl Recoverable	CTR-043-002a	C-24 Site Specific Criteria	CTR-043-006a
C-22 Dissolved v. Ttl Recoverable	CTR-092-002	C-24 Site Specific Criteria	CTR-041-046
C-22 Dissolved v. Ttl Recoverable	CTRH-001-003a	C-24 Site Specific Criteria	CTR-092-010
C-22 Dissolved v. Ttl Recoverable	CTRH-001-024c	C-24 Site Specific Criteria	CTR-032-002e
C-22 Dissolved v. Ttl Recoverable	CTRH-001-032b	C-24 Site Specific Criteria	CTR-044-041
C-22 Dissolved v. Ttl Recoverable	CTRH-001-048	C-24 Site Specific Criteria	CTR-054-045
C-22 Dissolved v. Ttl Recoverable	CTRH-001-057f	C-24 Site Specific Criteria	CTRH-001-047
C-22 Dissolved v. Ttl Recoverable	CTRH-002-011c	C-24a SSC Water Effect Ratios	CTR-003-001
C-23 Sediments/Dredged Materials	CTR-007-002	C-24a SSC Water Effect Ratios	CTR-004-004b
C-23 Sediments/Dredged Materials	CTR-077-001	C-24a SSC Water Effect Ratios	CTR-005-003b
C-23 Sediments/Dredged Materials	CTRH-001-021	C-24a SSC Water Effect Ratios	CTR-017-002b
C-23 Sediments/Dredged Materials	CTRH-001-059	C-24a SSC Water Effect Ratios	CTR-020-005
C-24 Site Specific Criteria	CTR-002-003	C-24a SSC Water Effect Ratios	CTR-020-006
C-24 Site Specific Criteria	CTR-003-006	C-24a SSC Water Effect Ratios	CTR-021-002b
C-24 Site Specific Criteria	CTR-004-008	C-24a SSC Water Effect Ratios	CTR-027-012b
C-24 Site Specific Criteria	CTR-005-008a	C-24a SSC Water Effect Ratios	CTR-034-009
C-24 Site Specific Criteria	CTR-008-002	C-24a SSC Water Effect Ratios	CTR-035-002h
C-24 Site Specific Criteria	CTR-009-003	C-24a SSC Water Effect Ratios	CTR-035-019
C-24 Site Specific Criteria	CTR-009-006a	C-24a SSC Water Effect Ratios	CTR-054-002b
C-24 Site Specific Criteria	CTR-010-001	C-24a SSC Water Effect Ratios	CTR-056-006
C-24 Site Specific Criteria	CTR-011-001b	C-24a SSC Water Effect Ratios	CTR-056-009
C-24 Site Specific Criteria	CTR-016-001	C-24a SSC Water Effect Ratios	CTR-038-002b
C-24 Site Specific Criteria	CTR-016-002	C-24a SSC Water Effect Ratios	CTR-040-002a
C-24 Site Specific Criteria	CTR-017-001	C-24a SSC Water Effect Ratios	CTR-041-003b
C-24 Site Specific Criteria	CTR-020-003	C-24a SSC Water Effect Ratios	CTR-044-003b
C-24 Site Specific Criteria	CTR-021-007	C-24a SSC Water Effect Ratios	CTR-045-005

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C-24a	SSC Water Effect Ratios	CTR-049-002	C-24e	SSC Desgntd/Beneficial Uses	CTR-081-004b
C-24a	SSC Water Effect Ratios	CTR-081-002b	C-24e	SSC Desgntd/Beneficial Uses	CTR-082-006
C-24a	SSC Water Effect Ratios	CTR-085-004	C-24e	SSC Desgntd/Beneficial Uses	CTR-085-015
C-24a	SSC Water Effect Ratios	CTR-085-008	C-24e	SSC Desgntd/Beneficial Uses	CTR-066-012
C-24a	SSC Water Effect Ratios	CTR-086-004d	C-24e	SSC Desgntd/Beneficial Uses	CTR-096-007
C-24a	SSC Water Effect Ratios	CTR-090-002b	C-25	Hardness	CTR-026-005
C-24a	SSC Water Effect Ratios	CTR-061-014	C-26	Avrging pds&Exceedence Freq.	CTR-003-002
C-24a	SSC Water Effect Ratios	CTR-066-003	C-26	Avrging pds&Exceedence Freq.	CTR-009-007
C-24a	SSC Water Effect Ratios	CTR-066-007	C-26	Avrging pds&Exceedence Freq.	CTR-020-008
C-24a	SSC Water Effect Ratios	CTR-043-002b	C-26	Avrging pds&Exceedence Freq.	CTR-020-009
C-24a	SSC Water Effect Ratios	CTR-092-004	C-26	Avrging pds&Exceedence Freq.	CTR-020-010
C-24a	SSC Water Effect Ratios	CTR-092-013a	C-26	Avrging pds&Exceedence Freq.	CTR-020-014
C-24a	SSC Water Effect Ratios	CTR-032-002d	C-26	Avrging pds&Exceedence Freq.	CTR-020-015
C-24a	SSC Water Effect Ratios	CTRH-001-003b	C-26	Avrging pds&Exceedence Freq.	CTR-035-020
C-24a	SSC Water Effect Ratios	CTRH-001-024d	C-26	Avrging pds&Exceedence Freq.	CTR-035-028
C-24a	SSC Water Effect Ratios	CTRH-001-032a	C-26	Avrging pds&Exceedence Freq.	CTR-035-031
C-24a	SSC Water Effect Ratios	CTRH-001-039a	C-26	Avrging pds&Exceedence Freq.	CTR-060-012
C-24a	SSC Water Effect Ratios	CTRH-001-057b	C-26	Avrging pds&Exceedence Freq.	CTR-040-018a
C-24b	SSC Recalculation Procedure	CTR-009-004	C-26	Avrging pds&Exceedence Freq.	CTR-036-007a
C-24b	SSC Recalculation Procedure	CTR-025-005	C-26	Avrging pds&Exceedence Freq.	CTR-037-007
C-24b	SSC Recalculation Procedure	CTR-082-005	C-26	Avrging pds&Exceedence Freq.	CTR-037-009
C-24c	SSC Santa Ana River	CTR-033-002	C-27	Additive/Synergistic Effects	CTR-026-002b
C-24d	SSC Effluent Dependent Wtr	CTR-034-007	C-27	Additive/Synergistic Effects	CTR-029-002e
C-24d	SSC Effluent Dependent Wtr	CTR-035-006	C-28	Detection Limits	CTR-005-009
C-24d	SSC Effluent Dependent Wtr	CTR-056-011	C-28	Detection Limits	CTR-011-002
C-24d	SSC Effluent Dependent Wtr	CTR-057-003	C-28	Detection Limits	CTR-013-004
C-24d	SSC Effluent Dependent Wtr	CTR-040-016a	C-28	Detection Limits	CTR-020-020
C-24d	SSC Effluent Dependent Wtr	CTR-042-005	C-28	Detection Limits	CTR-021-005b
C-24d	SSC Effluent Dependent Wtr	CTR-036-009	C-28	Detection Limits	CTR-027-004
C-24d	SSC Effluent Dependent Wtr	CTR-044-008	C-28	Detection Limits	CTR-030-009
C-24d	SSC Effluent Dependent Wtr	CTR-049-004	C-28	Detection Limits	CTR-033-003a
C-24d	SSC Effluent Dependent Wtr	CTR-059-010	C-28	Detection Limits	CTR-034-010a
C-24d	SSC Effluent Dependent Wtr	CTR-081-004a	C-28	Detection Limits	CTR-035-005
C-24d	SSC Effluent Dependent Wtr	CTR-085-014	C-28	Detection Limits	CTR-035-012b
C-24d	SSC Effluent Dependent Wtr	CTR-089-006	C-28	Detection Limits	CTR-052-018
C-24d	SSC Effluent Dependent Wtr	CTR-043-007	C-28	Detection Limits	CTR-054-009
C-24d	SSC Effluent Dependent Wtr	CTR-096-006	C-28	Detection Limits	CTR-056-014
C-24d	SSC Effluent Dependent Wtr	CTRH-002-012	C-28	Detection Limits	CTR-057-004
C-24d	SSC Effluent Dependent Wtr	CTRH-002-020	C-28	Detection Limits	CTR-060-010
C-24e	SSC Desgntd/Beneficial Uses	CTR-013-006b	C-28	Detection Limits	CTR-038-009a
C-24e	SSC Desgntd/Beneficial Uses	CTR-020-017	C-28	Detection Limits	CTR-041-008a
C-24e	SSC Desgntd/Beneficial Uses	CTR-026-001b	C-28	Detection Limits	CTR-040-017
C-24e	SSC Desgntd/Beneficial Uses	CTR-027-007b	C-28	Detection Limits	CTR-042-003
C-24e	SSC Desgntd/Beneficial Uses	CTR-035-007	C-28	Detection Limits	CTR-036-006
C-24e	SSC Desgntd/Beneficial Uses	CTR-035-038	C-28	Detection Limits	CTR-037-006
C-24e	SSC Desgntd/Beneficial Uses	CTR-056-013	C-28	Detection Limits	CTR-044-009a
C-24e	SSC Desgntd/Beneficial Uses	CTR-040-018d	C-28	Detection Limits	CTR-059-006a
C-24e	SSC Desgntd/Beneficial Uses	CTR-049-005	C-28	Detection Limits	CTR-067-003

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C-28	Detection Limits	CTR-085-018b	E-01a Baselines	CTR-044-026
C-28	Detection Limits	CTR-089-003	E-01a Baselines	CTR-054-030
C-28	Detection Limits	CTR-090-006	E-01a02 Cost Diff. for Eff. Limit	CTR-035-058
C-28	Detection Limits	CTR-090-011	E-01a02 Cost Diff. for Eff. Limit	CTR-060-018
C-28	Detection Limits	CTR-066-015b	E-01a03 Model 1 Weaknesses	CTR-035-045
C-28	Detection Limits	CTR-043-008	E-01a03 Model 1 Weaknesses	CTR-035-057
C-28	Detection Limits	CTRH-001-020	E-01a03 Model 1 Weaknesses	CTR-040-026
C-28	Detection Limits	CTRH-001-028	E-01a03 Model 1 Weaknesses	CTR-041-022
C-28	Detection Limits	CTRH-001-038	E-01a03 Model 1 Weaknesses	CTR-044-017
C-28	Detection Limits	CTRH-002-003	E-01a03 Model 1 Weaknesses	CTR-054-021
C-29	Bioaccumulation	CTR-026-002c	E-01b Cost Triggers	CTR-021-017
C-29	Bioaccumulation	CTR-029-002f	E-01b Cost Triggers	CTR-034-014b
C-29	Bioaccumulation	CTR-097-002	E-01b Cost Triggers	CTR-035-047a
C-29	Bioaccumulation	CTR-099-003	E-01b Cost Triggers	CTR-056-018
C-30	Narrative Criteria	CTR-053-002	E-01b Cost Triggers	CTR-056-019
C-30	Narrative Criteria	CTR-054-010	E-01b Cost Triggers	CTR-040-033
C-30	Narrative Criteria	CTR-038-010	E-01b Cost Triggers	CTR-040-040
C-30	Narrative Criteria	CTR-041-011	E-01b Cost Triggers	CTR-059-019
C-30	Narrative Criteria	CTR-040-018c	E-01b Cost Triggers	CTR-082-007b
C-30	Narrative Criteria	CTR-044-010	E-01b Cost Triggers	CTR-041-029
C-30	Narrative Criteria	CTR-061-007	E-01b Cost Triggers	CTR-041-036
C-30	Narrative Criteria	CTR-043-009	E-01b Cost Triggers	CTR-044-024
D	Preamble Editorial Comments	CTR-022-001	E-01b Cost Triggers	CTR-044-031
D	Preamble Editorial Comments	CTR-022-002	E-01b Cost Triggers	CTR-054-028
D	Preamble Editorial Comments	CTR-022-004	E-01b Cost Triggers	CTR-054-035
D	Preamble Editorial Comments	CTR-035-013	E-01b01 RegRelief Above Threshold	CTR-085-016b
D	Preamble Editorial Comments	CTR-035-015	E-01b01 RegRelief Above Threshold	CTR-066-013b
D	Preamble Editorial Comments	CTR-052-004	E-01b01 RegRelief Above Threshold	CTR-092-022b
D	Preamble Editorial Comments	CTR-036-012	E-01c Executive Order 12866	CTR-021-005c
D	Preamble Editorial Comments	CTR-061-015	E-01c Executive Order 12866	CTR-021-006b
E-01	Cost Analysis	CTR-052-003b	E-01c Executive Order 12866	CTR-031-006c
E-01	Cost Analysis	CTR-040-020	E-01c Executive Order 12866	CTR-035-008f
E-01	Cost Analysis	CTR-040-022	E-01c Executive Order 12866	CTR-035-010
E-01	Cost Analysis	CTR-040-023	E-01c Executive Order 12866	CTR-035-039
E-01	Cost Analysis	CTR-047-001	E-01c Executive Order 12866	CTR-052-021b
E-01	Cost Analysis	CTR-059-026	E-01c Executive Order 12866	CTR-054-008c
E-01	Cost Analysis	CTR-041-018	E-01c Executive Order 12866	CTR-055-003
E-01	Cost Analysis	CTR-041-019	E-01c Executive Order 12866	CTR-038-005a
E-01	Cost Analysis	CTR-091-002a	E-01c Executive Order 12866	CTR-038-006b
E-01	Cost Analysis	CTR-107-001	E-01c Executive Order 12866	CTR-038-008b
E-01	Cost Analysis	CTR-107-002a	E-01c Executive Order 12866	CTR-041-013a
E-01	Cost Analysis	CTR-044-013	E-01c Executive Order 12866	CTR-040-009c
E-01	Cost Analysis	CTR-044-014	E-01c Executive Order 12866	CTR-040-012a
E-01	Cost Analysis	CTR-054-017	E-01c Executive Order 12866	CTR-042-007b
E-01	Cost Analysis	CTR-054-018	E-01c Executive Order 12866	CTR-036-002b
E-01a	Baselines	CTR-040-035	E-01c Executive Order 12866	CTR-044-006b
E-01a	Baselines	CTR-041-031	E-01c Executive Order 12866	CTR-044-009b

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E-01c Executive Order 12866	CTR-050-007b	E-01d01 Cost Estmte by Commenter	CTR-005-004
E-01c Executive Order 12866	CTR-059-002a	E-01d01 Cost Estmte by Commenter	CTR-035-044b
E-01c Executive Order 12866	CTR-059-004a	E-01d01 Cost Estmte by Commenter	CTR-052-005b
E-01c Executive Order 12866	CTR-059-006b	E-01d01 Cost Estmte by Commenter	CTR-052-010
E-01c Executive Order 12866	CTR-059-015a	E-01d01 Cost Estmte by Commenter	CTR-054-005
E-01c Executive Order 12866	CTR-090-012a	E-01d01 Cost Estmte by Commenter	CTR-056-020
E-01c Executive Order 12866	CTR-043-005b	E-01d01 Cost Estmte by Commenter	CTR-038-003
E-01c Executive Order 12866	CTR-041-015	E-01d01 Cost Estmte by Commenter	CTR-041-009
E-01c Executive Order 12866	CTR-092-016a	E-01d01 Cost Estmte by Commenter	CTR-044-004
E-01c Executive Order 12866	CTR-092-022a	E-01d01 Cost Estmte by Commenter	CTR-059-001
E-01c Executive Order 12866	CTR-044-045	E-01d01 Cost Estmte by Commenter	CTR-067-006b
E-01c Executive Order 12866	CTR-054-049	E-01d01 Cost Estmte by Commenter	CTR-070-002b
E-01c01 \$100M Threshold	CTR-034-003	E-01d01 Cost Estmte by Commenter	CTR-111-001
E-01c01 \$100M Threshold	CTR-035-044a	E-01d01 Cost Estmte by Commenter	CTRH-001-044
E-01c01 \$100M Threshold	CTR-035-056b	E-01e Indirect Dischargers	CTR-021-011
E-01c01 \$100M Threshold	CTR-045-013	E-01e Indirect Dischargers	CTR-034-014c
E-01c01 \$100M Threshold	CTR-082-011	E-01e Indirect Dischargers	CTR-035-008b
E-01c01 \$100M Threshold	CTR-084-002a	E-01e Indirect Dischargers	CTR-035-049
E-01c01 \$100M Threshold	CTR-066-017	E-01e Indirect Dischargers	CTR-056-022a
E-01c01 \$100M Threshold	CTR-096-003a	E-01e Indirect Dischargers	CTR-041-010c
E-01c02 Bnfts do not Balance Cost	CTR-005-005	E-01e Indirect Dischargers	CTR-092-020
E-01c02 Bnfts do not Balance Cost	CTR-029-004a	E-01e01 Sunnyvale/San Jose	CTR-059-020
E-01c02 Bnfts do not Balance Cost	CTR-032-008b	E-01e01 Sunnyvale/San Jose	CTR-092-018
E-01c02 Bnfts do not Balance Cost	CTR-035-043	E-01e02 No Costs for Non-SIUs	CTR-040-037
E-01c02 Bnfts do not Balance Cost	CTR-035-056a	E-01e02 No Costs for Non-SIUs	CTR-043-003
E-01c02 Bnfts do not Balance Cost	CTR-035-064	E-01e02 No Costs for Non-SIUs	CTR-041-033
E-01c02 Bnfts do not Balance Cost	CTR-038-004d	E-01e02 No Costs for Non-SIUs	CTR-044-028
E-01c02 Bnfts do not Balance Cost	CTR-040-008a	E-01e02 No Costs for Non-SIUs	CTR-054-032
E-01c02 Bnfts do not Balance Cost	CTR-040-042	E-01e03 No Savings from Poll. Red	CTR-092-019
E-01c02 Bnfts do not Balance Cost	CTR-044-005e	E-01g Sample Facilities	CTR-021-008
E-01c02 Bnfts do not Balance Cost	CTR-043-004e	E-01g Sample Facilities	CTR-021-014
E-01c02 Bnfts do not Balance Cost	CTR-041-038	E-01g Sample Facilities	CTR-035-059
E-01c02 Bnfts do not Balance Cost	CTR-044-033	E-01g Sample Facilities	CTR-041-010d
E-01c02 Bnfts do not Balance Cost	CTR-054-037	E-01g Sample Facilities	CTR-043-004a
E-01c02 Bnfts do not Balance Cost	CTRH-001-037a	E-01g Sample Facilities	CTR-092-014
E-01c02 Bnfts do not Balance Cost	CTRH-002-016a	E-01g01 Low or Zero Dilution	CTR-108-001
E-01d Direct Dischargers	CTR-011-001c	E-01g02 Another EA for Sample Fac	CTR-052-014
E-01d Direct Dischargers	CTR-035-008c	E-01g02 Another EA for Sample Fac	CTR-057-001
E-01d Direct Dischargers	CTR-035-061	E-01g03 Cost Effectiveness Ratio	CTR-054-013a
E-01d Direct Dischargers	CTR-052-006	E-01g03 Cost Effectiveness Ratio	CTR-056-016
E-01d Direct Dischargers	CTR-052-011	E-01g03 Cost Effectiveness Ratio	CTR-056-017
E-01d Direct Dischargers	CTR-045-012a	E-01g03 Cost Effectiveness Ratio	CTR-040-039
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E-01d Direct Dischargers	CTR-085-019	E-01g03 Cost Effectiveness Ratio	CTR-054-034
E-01d Direct Dischargers	CTR-089-005	E-01g04 AMLs vs. MDLs	CTR-021-010
E-01d Direct Dischargers	CTR-066-016	E-01g05 Effluent Data	CTR-040-027

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E-01g05 Effluent Data	CTR-093-001	E-01h01 25% Reduction Assumption CTR-044-020b
E-01g05 Effluent Data	CTR-044-018	E-01h01 25% Reduction Assumption CTR-054-024b
E-01g05 Effluent Data	CTR-054-022	E-01h02 Unit Cost Assumptions CTRH-001-037c
E-01g06 Reasonable Potential	CTR-021-016	E-01i Alternative Cost Analysis CTR-003-012
E-01g08 Discharger Representation	CTR-034-014a	E-01i Alternative Cost Analysis CTR-021-015
E-01g08 Discharger Representation	CTR-035-008a	E-01i Alternative Cost Analysis CTR-052-005a
E-01g08 Discharger Representation	CTR-035-046a	E-01i Alternative Cost Analysis CTR-052-009
E-01g08 Discharger Representation	CTR-035-063	E-01i Alternative Cost Analysis CTR-059-027
E-01g08 Discharger Representation	CTR-060-017	E-01i Alternative Cost Analysis CTR-092-021
E-01g08 Discharger Representation	CTR-038-004a	E-01j CTR-069-002b
E-01g08 Discharger Representation	CTR-040-024	E-01l UMRA - Economic Comments CTR-059-024
E-01g08 Discharger Representation	CTR-044-005a	E-01m Regulatory Relief CTR-003-007
E-01g08 Discharger Representation	CTR-045-009a	E-01m Regulatory Relief CTR-032-004
E-01g08 Discharger Representation	CTR-049-006a	E-01m Regulatory Relief CTR-035-008d
E-01g08 Discharger Representation	CTR-059-018	E-01m Regulatory Relief CTR-035-047b
E-01g08 Discharger Representation	CTR-059-023a	E-01m Regulatory Relief CTR-054-013c
E-01g08 Discharger Representation	CTR-082-007a	E-01m Regulatory Relief CTR-038-004c
E-01g08 Discharger Representation	CTR-085-016a	E-01m Regulatory Relief CTR-040-008b
E-01g08 Discharger Representation	CTR-066-013a	E-01m Regulatory Relief CTR-041-010b
E-01g08 Discharger Representation	CTR-041-020	E-01m Regulatory Relief CTR-040-031
E-01g08 Discharger Representation	CTR-044-015	E-01m Regulatory Relief CTR-040-036
E-01g08 Discharger Representation	CTR-054-019	E-01m Regulatory Relief CTR-040-041
E-01g08 Discharger Representation	CTRH-001-058	E-01m Regulatory Relief CTR-044-005c
E-01g09 Affected Facilities	CTR-021-004	E-01m Regulatory Relief CTR-045-009c
E-01g09 Affected Facilities	CTR-035-046b	E-01m Regulatory Relief CTR-049-006c
E-01g09 Affected Facilities	CTR-035-048	E-01m Regulatory Relief CTR-086-006
E-01g10 Toxic Pound Equivalents	CTR-052-012	E-01m Regulatory Relief CTR-043-004c
E-01h Treatment Assumptions	CTR-003-011	E-01m Regulatory Relief CTR-041-027
E-01h Treatment Assumptions	CTR-003-013	E-01m Regulatory Relief CTR-041-032
E-01h Treatment Assumptions	CTR-021-009	E-01m Regulatory Relief CTR-041-037
E-01h Treatment Assumptions	CTR-035-008e	E-01m Regulatory Relief CTR-032-001
E-01h Treatment Assumptions	CTR-038-004b	E-01m Regulatory Relief CTR-044-022
E-01h Treatment Assumptions	CTR-040-032	E-01m Regulatory Relief CTR-044-027
E-01h Treatment Assumptions	CTR-040-038	E-01m Regulatory Relief CTR-044-032
E-01h Treatment Assumptions	CTR-045-009b	E-01m Regulatory Relief CTR-054-026
E-01h Treatment Assumptions	CTR-049-006b	E-01m Regulatory Relief CTR-054-031
E-01h Treatment Assumptions	CTR-086-003	E-01m Regulatory Relief CTR-054-036
E-01h Treatment Assumptions	CTR-043-004b	E-01m02 Success in Reg. Relief CTR-090-003
E-01h Treatment Assumptions	CTR-041-028	E-01m03 Cost of WERs CTR-060-019
E-01h Treatment Assumptions	CTR-041-034	E-01n Detection Limits CTR-003-008
E-01h Treatment Assumptions	CTR-044-023	E-01n Detection Limits CTR-004-002
E-01h Treatment Assumptions	CTR-044-029	E-01n Detection Limits CTR-021-013
E-01h Treatment Assumptions	CTR-054-027	E-01n Detection Limits CTR-033-003b
E-01h Treatment Assumptions	CTR-054-033	E-01n Detection Limits CTR-038-009b
E-01h Treatment Assumptions	CTRH-002-016b	E-01n Detection Limits CTR-041-008b
E-01h01 25% Reduction Assumption	CTR-040-029b	E-01n Detection Limits CTR-041-010a
E-01h01 25% Reduction Assumption	CTR-044-005b	E-01n Detection Limits CTR-045-011

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E-01n	Detection Limits	CTR-070-003	E-02 Benefits Analysis CTR-034-015
E-01n	Detection Limits	CTR-082-009a	E-02 Benefits Analysis CTR-035-071
E-01n	Detection Limits	CTR-085-018a	E-02 Benefits Analysis CTR-035-072
E-01n	Detection Limits	CTR-066-015a	E-02 Benefits Analysis CTR-052-003c
E-01n	Detection Limits	CTR-107-002c	E-02 Benefits Analysis CTR-052-007
E-01n	Detection Limits	CTRH-002-019	E-02 Benefits Analysis CTR-040-052
E-01n	Detection Limits	CTRH-002-022	E-02 Benefits Analysis CTR-090-008
E-01n01	Non-Detects, No Cost	CTR-040-028	E-02 Benefits Analysis CTR-041-048
E-01n01	Non-Detects, No Cost	CTR-041-024	E-02 Benefits Analysis CTR-091-002b
E-01n01	Non-Detects, No Cost	CTR-044-019	E-02 Benefits Analysis CTR-044-043
E-01n01	Non-Detects, No Cost	CTR-054-023	E-02 Benefits Analysis CTR-054-047
E-01o	Background Levels	CTR-003-010	E-02c Overstated Benefits CTR-009-008b
E-01p	Risk Level Costs	CTR-035-050	E-02c Overstated Benefits CTR-035-009b
E-01p	Risk Level Costs	CTR-035-056c	E-02c Overstated Benefits CTR-035-065b
E-01p	Risk Level Costs	CTR-052-016	E-02c Overstated Benefits CTR-035-068
E-01q	Source Reduction	CTR-004-003	E-02c Overstated Benefits CTR-040-008c
E-01q	Source Reduction	CTR-021-012	E-02c Overstated Benefits CTR-040-043
E-01q	Source Reduction	CTR-035-062	E-02c Overstated Benefits CTR-044-005d
E-01q	Source Reduction	CTR-040-030	E-02c Overstated Benefits CTR-061-018
E-01q	Source Reduction	CTR-041-026	E-02c Overstated Benefits CTR-043-004d
E-01q	Source Reduction	CTR-044-021	E-02c Overstated Benefits CTR-041-039
E-01q	Source Reduction	CTR-054-025	E-02c Overstated Benefits CTR-044-034
E-01q01	25% Assumption	CTR-054-013b	E-02c Overstated Benefits CTR-054-038
E-01q01	25% Assumption	CTR-040-029a	E-02d Passive Use Value CTR-026-009
E-01q01	25% Assumption	CTR-041-025a	E-02d Passive Use Value CTR-035-055
E-01q01	25% Assumption	CTR-044-020a	E-02d Passive Use Value CTR-040-047
E-01q01	25% Assumption	CTR-054-024a	E-02d Passive Use Value CTR-041-043
E-01q03	Unit Cost Assumption	CTRH-001-037b	E-02d Passive Use Value CTR-044-038
E-01r	Economic Variances	CTR-035-060	E-02d Passive Use Value CTR-054-042
E-01s	2ndary,Indirect Cost Impact	CTR-009-008a	E-02e Include Omitted Benefits CTR-029-004b
E-01s	2ndary,Indirect Cost Impact	CTRH-001-023	E-02e Include Omitted Benefits CTR-092-023a
E-01u	Economic Consid. Task Force	CTR-032-008a	E-02f Use More Recent Data CTR-035-009a
E-01u	Economic Consid. Task Force	CTR-034-016	E-02f Use More Recent Data CTR-035-051b
E-01u	Economic Consid. Task Force	CTR-035-011a	E-02f Use More Recent Data CTR-056-021
E-01u	Economic Consid. Task Force	CTR-056-023	E-02f Use More Recent Data CTR-045-010
E-01u	Economic Consid. Task Force	CTR-045-014	E-02f Use More Recent Data CTR-082-008
E-01u	Economic Consid. Task Force	CTR-049-007	E-02f Use More Recent Data CTR-085-017
E-01u	Economic Consid. Task Force	CTR-082-012	E-02f Use More Recent Data CTR-066-014
E-01u	Economic Consid. Task Force	CTR-066-018	E-02g Benefits & Poll. Reduction CTR-035-051a
E-01u	Economic Consid. Task Force	CTR-096-009	E-02g Benefits & Poll. Reduction CTR-035-066
E-01v	Discharge Over Time	CTR-034-014d	E-02g Benefits & Poll. Reduction CTR-040-044
E-01v	Discharge Over Time	CTR-059-021	E-02g Benefits & Poll. Reduction CTR-041-040
E-01w	Cost per Facility	CTR-005-001	E-02g Benefits & Poll. Reduction CTR-044-035
E-01w	Cost per Facility	CTR-059-022	E-02g Benefits & Poll. Reduction CTR-054-039
E-01w	Cost per Facility	CTR-070-002a	E-02h Un-Enclose,Enclose Bay Data CTR-035-053
E-01w	Cost per Facility	CTR-081-005a	E-02h Un-Enclose,Enclose Bay Data CTR-035-070
E-01y	Cost of Efforts to Date	CTR-092-022c	E-02i Impaired Waters Assumptions CTR-035-054

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E-02i Impaired Waters Assumptions	CTR-041-042	G-02 Compliance Schedules	CTR-054-012
E-02i Impaired Waters Assumptions	CTR-044-037	G-02 Compliance Schedules	CTR-056-010
E-02i Impaired Waters Assumptions	CTR-054-041	G-02 Compliance Schedules	CTR-060-005
E-02k Long-Term Contamination	CTR-035-051c	G-02 Compliance Schedules	CTR-038-012
E-02k Long-Term Contamination	CTR-035-065a	G-02 Compliance Schedules	CTR-039-007
E-02l Marginal Impacts/Benefits	CTR-035-052	G-02 Compliance Schedules	CTR-041-012
E-02l Marginal Impacts/Benefits	CTR-035-067	G-02 Compliance Schedules	CTR-040-019
E-02l Marginal Impacts/Benefits	CTR-054-006	G-02 Compliance Schedules	CTR-036-010a
E-02l Marginal Impacts/Benefits	CTR-054-013d	G-02 Compliance Schedules	CTR-044-011
E-02l Marginal Impacts/Benefits	CTR-092-023b	G-02 Compliance Schedules	CTR-045-003
E-02m Few Pollutant Mask Analysis	CTR-035-069	G-02 Compliance Schedules	CTR-058-007
E-02m Few Pollutant Mask Analysis	CTR-059-025	G-02 Compliance Schedules	CTR-059-013
E-02o Analysis from Wisconsin	CTR-009-008c	G-02 Compliance Schedules	CTR-067-005
E-02o Analysis from Wisconsin	CTR-040-045	G-02 Compliance Schedules	CTR-081-002c
E-02o Analysis from Wisconsin	CTR-041-041	G-02 Compliance Schedules	CTR-082-002
E-02o Analysis from Wisconsin	CTR-044-036	G-02 Compliance Schedules	CTR-085-005
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E-02o01 No Peer Review Reference	CTR-090-004	G-02 Compliance Schedules	CTR-089-001f
E-02q Benefits to Public at Large	CTR-092-023c	G-02 Compliance Schedules	CTR-090-002e
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F Endangered Species Act	CTR-031-002a	G-02 Compliance Schedules	CTR-066-004
F Endangered Species Act	CTR-031-007a	G-02 Compliance Schedules	CTR-043-010
F Endangered Species Act	CTR-034-006	G-02 Compliance Schedules	CTR-092-009
F Endangered Species Act	CTR-035-042	G-02 Compliance Schedules	CTR-095-004
F Endangered Species Act	CTR-001-009a	G-02 Compliance Schedules	CTR-104-003
F Endangered Species Act	CTR-059-017	G-02 Compliance Schedules	CTR-106-003
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G-01 Reasonable Potential	CTR-032-002a	G-02 Compliance Schedules	CTR-109-004
G-01 Reasonable Potential	CTR-037-001b	G-02 Compliance Schedules	CTR-110-003
G-01 Reasonable Potential	CTR-086-004a	G-02 Compliance Schedules	CTRH-001-011
G-01 Reasonable Potential	CTR-090-010a	G-02 Compliance Schedules	CTRH-001-024a
G-02 Compliance Schedules	CTR-002-010b	G-02 Compliance Schedules	CTRH-001-039c
G-02 Compliance Schedules	CTR-009-002	G-02 Compliance Schedules	CTRH-001-052
G-02 Compliance Schedules	CTR-009-006b	G-02 Compliance Schedules	CTRH-002-011a
G-02 Compliance Schedules	CTR-013-007b	G-02 Compliance Schedules	CTRH-002-014
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G-02 Compliance Schedules	CTR-016-003	G-03 Design/Minimum Flows	CTR-020-016
G-02 Compliance Schedules	CTR-020-021	G-03 Design/Minimum Flows	CTR-027-005a
G-02 Compliance Schedules	CTR-021-002f	G-03 Design/Minimum Flows	CTR-035-029
G-02 Compliance Schedules	CTR-022-003	G-03 Design/Minimum Flows	CTR-040-018b
G-02 Compliance Schedules	CTR-027-008b	G-03 Design/Minimum Flows	CTR-036-007b
G-02 Compliance Schedules	CTR-030-004a	G-03 Design/Minimum Flows	CTR-037-005
G-02 Compliance Schedules	CTR-031-005a	G-03 Design/Minimum Flows	CTRH-001-034c
G-02 Compliance Schedules	CTR-032-002i	G-04 Interim Limits	CTR-003-005
G-02 Compliance Schedules	CTR-034-013	G-04 Interim Limits	CTR-005-003f
G-02 Compliance Schedules	CTR-035-037	G-04 Interim Limits	CTR-021-002a
G-02 Compliance Schedules	CTR-052-020	G-04 Interim Limits	CTR-030-001

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G-04 Interim Limits	CTR-034-012a	G-05 Mixing Zones&Dilution Credit CTR-085-011
G-04 Interim Limits	CTR-035-002e	G-05 Mixing Zones&Dilution Credit CTR-086-004h
G-04 Interim Limits	CTR-035-033	G-05 Mixing Zones&Dilution Credit CTR-089-001d
G-04 Interim Limits	CTR-052-002e	G-05 Mixing Zones&Dilution Credit CTR-090-002d
G-04 Interim Limits	CTR-054-004c	G-05 Mixing Zones&Dilution Credit CTR-066-010
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G-04 Interim Limits	CTR-039-008	G-05 Mixing Zones&Dilution Credit CTR-044-042
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G-04 Interim Limits	CTR-044-003f	G-05 Mixing Zones&Dilution Credit CTRH-001-022b
G-04 Interim Limits	CTR-045-002	G-05 Mixing Zones&Dilution Credit CTRH-001-024b
G-04 Interim Limits	CTR-059-012	G-05 Mixing Zones&Dilution Credit CTRH-001-032c
G-04 Interim Limits	CTR-081-002a	G-05 Mixing Zones&Dilution Credit CTRH-001-057g
G-04 Interim Limits	CTR-085-003	G-06 NWQI CTR-061-020
G-04 Interim Limits	CTR-085-012	G-07 Variances CTR-004-007
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G-05 Mixing Zones&Dilution Credit	CTR-021-002e	G-09 Translators CTR-004-004d
G-05 Mixing Zones&Dilution Credit	CTR-027-012e	G-09 Translators CTR-005-003d
G-05 Mixing Zones&Dilution Credit	CTR-032-002h	G-09 Translators CTR-027-012d
G-05 Mixing Zones&Dilution Credit	CTR-035-002d	G-09 Translators CTR-030-008
G-05 Mixing Zones&Dilution Credit	CTR-035-034	G-09 Translators CTR-032-002c
G-05 Mixing Zones&Dilution Credit	CTR-052-002d	G-09 Translators CTR-035-002f
G-05 Mixing Zones&Dilution Credit	CTR-052-019	G-09 Translators CTR-035-018
G-05 Mixing Zones&Dilution Credit	CTR-054-004b	G-09 Translators CTR-052-002c
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G-05 Mixing Zones&Dilution Credit	CTR-038-002e	G-09 Translators CTR-060-009
G-05 Mixing Zones&Dilution Credit	CTR-040-002d	G-09 Translators CTR-038-002f
G-05 Mixing Zones&Dilution Credit	CTR-041-006b	G-09 Translators CTR-040-002c
G-05 Mixing Zones&Dilution Credit	CTR-040-051	G-09 Translators CTR-041-003a
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G-09 Translators	CTR-089-001g	I-01 Application Sec 301 vs. MEP	CTRH-001-001a
G-09 Translators	CTR-066-006	I-01 Application Sec 301 vs. MEP	CTRH-001-004
G-09 Translators	CTR-043-002f	I-01 Application Sec 301 vs. MEP	CTRH-001-006
G-09 Translators	CTR-092-003	I-01 Application Sec 301 vs. MEP	CTRH-001-031
G-09 Translators	CTRH-001-045b	I-01 Application Sec 301 vs. MEP	CTRH-001-040
G-09 Translators	CTRH-001-049	I-01 Application Sec 301 vs. MEP	CTRH-002-001
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J Storm Water Economics	CTR-019-003a	J Storm Water Economics	CTRH-001-001b
J Storm Water Economics	CTR-021-006a	J Storm Water Economics	CTRH-001-029
J Storm Water Economics	CTR-024-003	J Storm Water Economics	CTRH-001-033
J Storm Water Economics	CTR-024-004b	J Storm Water Economics	CTRH-001-054
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J Storm Water Economics	CTR-027-009b	J Storm Water Economics	CTRH-002-006b
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J Storm Water Economics	CTR-040-010a	J-01 MS4s/CSOs/Industries Costs	CTR-072-002
J Storm Water Economics	CTR-040-014b	J-01 MS4s/CSOs/Industries Costs	CTR-075-002
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J Storm Water Economics	CTR-036-004a	J-01 MS4s/CSOs/Industries Costs	CTR-079-002
J Storm Water Economics	CTR-047-003	J-01 MS4s/CSOs/Industries Costs	CTR-087-003
J Storm Water Economics	CTR-047-004a	J-01 MS4s/CSOs/Industries Costs	CTR-062-002
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J Storm Water Economics	CTR-071-003	J-01 MS4s/CSOs/Industries Costs	CTR-069-002a
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J Storm Water Economics	CTR-073-004a	J-02 RFA - Small Entity Cost	CTRH-001-008b
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J Storm Water Economics	CTR-075-003	J-04 End-of-Pipe Treatment v. BMP	CTR-042-002
J Storm Water Economics	CTR-075-004a	J-04 End-of-Pipe Treatment v. BMP	CTR-047-002
J Storm Water Economics	CTR-076-003	J-04 End-of-Pipe Treatment v. BMP	CTR-080-002
J Storm Water Economics	CTR-076-004a	J-04 End-of-Pipe Treatment v. BMP	CTRH-001-042
J Storm Water Economics	CTR-078-003	J-04 End-of-Pipe Treatment v. BMP	CTRH-001-060b
J Storm Water Economics	CTR-078-004a	J-04 End-of-Pipe Treatment v. BMP	CTRH-002-002
J Storm Water Economics	CTR-079-003	J-05 BMPs Inability to Comply	CTR-040-025
J Storm Water Economics	CTR-079-004a	J-05 BMPs Inability to Comply	CTR-041-021
J Storm Water Economics	CTR-080-001	J-05 BMPs Inability to Comply	CTR-096-003b
J Storm Water Economics	CTR-061-002	J-05 BMPs Inability to Comply	CTR-044-016
J Storm Water Economics	CTR-061-003	J-05 BMPs Inability to Comply	CTR-054-020
J Storm Water Economics	CTR-061-017	J-06 NEPA	CTR-001-009b

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J-06 NEPA	CTRH-001-009a	M Re-Open Comment Period	CTR-043-011
K Water Shed Approach	CTR-021-003	O Offer of Assistance/Review	CTR-027-013b
K Water Shed Approach	CTR-032-002f	O Offer of Assistance/Review	CTR-040-001
K Water Shed Approach	CTR-032-007	O Offer of Assistance/Review	CTR-040-021
K Water Shed Approach	CTR-034-011	P Whole Effluent Toxicity	CTR-057-008
K Water Shed Approach	CTR-035-003	P Whole Effluent Toxicity	CTR-065-006a
K Water Shed Approach	CTR-036-011	Q Nonpoint Sources	CTR-086-001a
K Water Shed Approach	CTR-059-014	Q Nonpoint Sources	CTR-090-007
K Water Shed Approach	CTR-067-004b	Q Nonpoint Sources	CTR-090-015
K Water Shed Approach	CTR-083-002	Q Nonpoint Sources	CTR-090-023b
K Water Shed Approach	CTRH-002-015	R RFA/SBREFEA	CTR-005-006c
K-01 TMDLs	CTR-004-006	R RFA/SBREFEA	CTR-013-008a
K-01 TMDLs	CTR-021-002d	R RFA/SBREFEA	CTR-014-004a
K-01 TMDLs	CTR-034-012b	R RFA/SBREFEA	CTR-019-003b
K-01 TMDLs	CTR-035-002g	R RFA/SBREFEA	CTR-021-005d
K-01 TMDLs	CTR-035-032a	R RFA/SBREFEA	CTR-021-006c
K-01 TMDLs	CTR-057-010a	R RFA/SBREFEA	CTR-023-001
K-01 TMDLs	CTR-040-048	R RFA/SBREFEA	CTR-024-004a
K-01 TMDLs	CTR-058-011	R RFA/SBREFEA	CTR-027-009a
K-01 TMDLs	CTR-086-001b	R RFA/SBREFEA	CTR-027-011
K-01 TMDLs	CTR-089-001e	R RFA/SBREFEA	CTR-028-001a
K-01 TMDLs	CTR-090-010b	R RFA/SBREFEA	CTR-031-006b
K-01 TMDLs	CTR-041-044	R RFA/SBREFEA	CTR-031-009
K-01 TMDLs	CTR-092-005	R RFA/SBREFEA	CTR-034-005
K-01 TMDLs	CTR-044-039	R RFA/SBREFEA	CTR-035-041
K-01 TMDLs	CTR-054-043	R RFA/SBREFEA	CTR-052-021c
K-01 TMDLs	CTRH-002-011d	R RFA/SBREFEA	CTR-054-008d
K-02 Watershed Permitting	CTR-090-023a	R RFA/SBREFEA	CTR-001-008b
K-03 Watershed/Effluent Trading	CTR-035-032b	R RFA/SBREFEA	CTR-038-005b
K-03 Watershed/Effluent Trading	CTR-086-004f	R RFA/SBREFEA	CTR-038-006c
K-03 Watershed/Effluent Trading	CTR-061-016	R RFA/SBREFEA	CTR-038-008c
K-03 Watershed/Effluent Trading	CTRH-001-057a	R RFA/SBREFEA	CTR-038-009c
L Anti-Backsliding	CTR-030-002	R RFA/SBREFEA	CTR-041-013b
L Anti-Backsliding	CTR-060-003	R RFA/SBREFEA	CTR-040-009a
M Re-Open Comment Period	CTR-005-010	R RFA/SBREFEA	CTR-040-010b
M Re-Open Comment Period	CTR-013-009	R RFA/SBREFEA	CTR-040-013
M Re-Open Comment Period	CTR-027-013a	R RFA/SBREFEA	CTR-036-004b
M Re-Open Comment Period	CTR-031-010	R RFA/SBREFEA	CTR-044-005f
M Re-Open Comment Period	CTR-034-017	R RFA/SBREFEA	CTR-044-006c
M Re-Open Comment Period	CTR-035-011b	R RFA/SBREFEA	CTR-044-009c
M Re-Open Comment Period	CTR-052-022	R RFA/SBREFEA	CTR-047-004b
M Re-Open Comment Period	CTR-053-001	R RFA/SBREFEA	CTR-050-007c
M Re-Open Comment Period	CTR-054-016	R RFA/SBREFEA	CTR-059-002b
M Re-Open Comment Period	CTR-038-013	R RFA/SBREFEA	CTR-059-016
M Re-Open Comment Period	CTR-044-012	R RFA/SBREFEA	CTR-067-006a
M Re-Open Comment Period	CTR-059-005	R RFA/SBREFEA	CTR-071-004b
M Re-Open Comment Period	CTR-059-004b	R RFA/SBREFEA	CTR-072-004b
M Re-Open Comment Period	CTR-067-007	R RFA/SBREFEA	CTR-073-004b

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R RFA/SBREFEA	CTR-074-004b	S UMRA	CTR-044-046
R RFA/SBREFEA	CTR-075-004b	S UMRA	CTR-054-050
R RFA/SBREFEA	CTR-076-004b	S UMRA	CTR-040-055
R RFA/SBREFEA	CTR-078-004b	T State Implementation Policy	CTR-004-001
R RFA/SBREFEA	CTR-079-004b	T State Implementation Policy	CTR-007-006
R RFA/SBREFEA	CTR-062-004b	T State Implementation Policy	CTR-009-001
R RFA/SBREFEA	CTR-043-005c	T State Implementation Policy	CTR-015-003
R RFA/SBREFEA	CTR-041-017	T State Implementation Policy	CTR-027-005b
R RFA/SBREFEA	CTR-092-016b	T State Implementation Policy	CTR-032-003
R RFA/SBREFEA	CTR-096-004b	T State Implementation Policy	CTR-032-005b
R RFA/SBREFEA	CTR-044-047	T State Implementation Policy	CTR-052-015
R RFA/SBREFEA	CTR-054-051	T State Implementation Policy	CTR-053-005
R RFA/SBREFEA	CTRE-003-001c	T State Implementation Policy	CTR-055-002b
R RFA/SBREFEA	CTRH-001-005b	T State Implementation Policy	CTR-057-009
R RFA/SBREFEA	CTRH-001-008a	T State Implementation Policy	CTR-038-008e
R RFA/SBREFEA	CTR-040-056	T State Implementation Policy	CTR-086-005
R RFA/SBREFEA	CTR-040-056	T State Implementation Policy	CTR-086-007
S UMRA	CTR-005-006b	T State Implementation Policy	CTR-090-009
S UMRA	CTR-019-002b	T State Implementation Policy	CTR-092-001
S UMRA	CTR-021-005e	T State Implementation Policy	CTRH-001-055
S UMRA	CTR-021-006d	V Collaborative Approach	CTR-031-002e
S UMRA	CTR-034-004	V Collaborative Approach	CTR-031-008b
S UMRA	CTR-035-040	V Collaborative Approach	CTR-054-015
S UMRA	CTR-052-021d	V Collaborative Approach	CTR-032-005a
S UMRA	CTR-054-008e	V Collaborative Approach	CTR-034-002
S UMRA	CTR-056-022b	V Collaborative Approach	CTRE-001-001b
S UMRA	CTR-038-005c	V Collaborative Approach	CTRE-023-001b
S UMRA	CTR-038-006d	V Collaborative Approach	CTRH-001-019b
S UMRA	CTR-038-008d	V Collaborative Approach	CTRH-001-025
S UMRA	CTR-038-009d	V Collaborative Approach	CTRH-001-030
S UMRA	CTR-041-013c	V Collaborative Approach	CTRH-001-056
S UMRA	CTR-040-009b	V Collaborative Approach	CTRH-002-021b
S UMRA	CTR-040-012b		
S UMRA	CTR-040-015a		
S UMRA	CTR-042-007c		
S UMRA	CTR-036-003a		
S UMRA	CTR-044-005g		
S UMRA	CTR-044-006d		
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S UMRA	CTR-084-002b		
S UMRA	CTR-090-012b		
S UMRA	CTR-043-005d		
S UMRA	CTR-041-016		
S UMRA	CTR-092-016c		

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CTR-001-001	B Comment Period	CTR-004-005	B Comment Period
CTR-001-002	I-02a Applying WQBELs, Stormwater	CTR-004-006	K-01 TMDLs
CTR-001-003	I-01 Application Sec 301 vs. MEP	CTR-004-007	G-07 Variances
CTR-001-004	I-02a Applying WQBELs, Stormwater	CTR-004-008	C-24 Site Specific Criteria
CTR-001-005	I-01 Application Sec 301 vs. MEP	CTR-004-009	G-05 Mixing Zones&Dilution Credit
CTR-001-006	I-02 Elliott Memorandum	CTR-005-001	E-01w Cost per Facility
CTR-001-007	J Storm Water Economics	CTR-005-002	B Comment Period
CTR-001-008a	J-02 RFA - Small Entity Cost	CTR-005-003a	C-22 Dissolved v. Ttl Recoverable
CTR-001-008b	R RFA/SBREFA	CTR-005-003b	C-24a SSC Water Effect Ratios
CTR-001-009a	F Endangered Species Act	CTR-005-003c	C-01 Mercury
CTR-001-009b	J-06 NEPA	CTR-005-003d	G-09 Translators
CTR-001-010	I-08 SWRCB Flexibility&Authority	CTR-005-003e	G-05 Mixing Zones&Dilution Credit
CTR-001-011	I-01 Application Sec 301 vs. MEP	CTR-005-003f	G-04 Interim Limits
CTR-002-001	B Comment Period	CTR-005-004	E-01d01 Cost Estmte by Commenter
CTR-002-002a	C-14 Fish or Water Consumption	CTR-005-005	E-01c02 Bnfts do not Balance Cost
CTR-002-002b	C-17a Methodologies Human Health	CTR-005-006a	C-21 Legal Concerns
CTR-002-003	C-24 Site Specific Criteria	CTR-005-006b	S UMRA
CTR-002-004a	C-17a Methodologies Human Health	CTR-005-006c	R RFA/SBREFA
CTR-002-004b	C-17b Methodologies Aquatic Life	CTR-005-007	C-13 Risk Level
CTR-002-005a	C-14 Fish or Water Consumption	CTR-005-008a	C-24 Site Specific Criteria
CTR-002-005b	C-21 Legal Concerns	CTR-005-008b	C-21 Legal Concerns
CTR-002-006	C-09a Dioxin Human Health	CTR-005-009	C-28 Detection Limits
CTR-002-007a	C-01 Mercury	CTR-005-010	M Re-Open Comment Period
CTR-002-007b	C-01 Mercury	CTR-006-001a	C-01 Mercury
CTR-002-008	C-02b Copper Aquatic Life	CTR-006-001b	C-01 Mercury
CTR-002-009	C-21 Legal Concerns	CTR-006-002a	C-01 Mercury
CTR-002-010a	A Anti-degradation	CTR-006-002b	C-14 Fish or Water Consumption
CTR-002-010b	G-02 Compliance Schedules	CTR-006-003	C-01 Mercury
CTR-003-001	C-24a SSC Water Effect Ratios	CTR-007-001	C-22 Dissolved v. Ttl Recoverable
CTR-003-002	C-26 Avrging pds&Exceedence Freq.	CTR-007-002	C-23 Sediments/Dredged Materials
CTR-003-003	C-13 Risk Level	CTR-007-003	I-03 Applicability of Criteria
CTR-003-004	G-03 Design/Minimum Flows	CTR-007-004	C-21 Legal Concerns
CTR-003-005	G-04 Interim Limits	CTR-007-005	B Comment Period
CTR-003-006	C-24 Site Specific Criteria	CTR-007-006	T State Implementation Policy
CTR-003-007	E-01m Regulatory Relief	CTR-008-001	C-04b Selenium Aquatic Life
CTR-003-008	E-01n Detection Limits	CTR-008-002	C-24 Site Specific Criteria
CTR-003-009	C-01 Mercury	CTR-009-001	T State Implementation Policy
CTR-003-010	E-01o Background Levels	CTR-009-002	G-02 Compliance Schedules
CTR-003-011	E-01h Treatment Assumptions	CTR-009-003	C-24 Site Specific Criteria
CTR-003-012	E-01i Alternative Cost Analysis	CTR-009-004	C-24b SSC Recalculation Procedure
CTR-003-013	E-01h Treatment Assumptions	CTR-009-005	C-04b Selenium Aquatic Life
CTR-004-001	T State Implementation Policy	CTR-009-006a	C-24 Site Specific Criteria
CTR-004-002	E-01n Detection Limits	CTR-009-006b	G-02 Compliance Schedules
CTR-004-003	E-01q Source Reduction	CTR-009-007	C-26 Avrging pds&Exceedence Freq.
CTR-004-004a	G-05 Mixing Zones&Dilution Credit	CTR-009-008a	E-01s 2ndary, Indirect Cost Impact
CTR-004-004b	C-24a SSC Water Effect Ratios	CTR-009-008b	E-02c Overstated Benefits
CTR-004-004c	C-22 Dissolved v. Ttl Recoverable	CTR-009-008c	E-02o Analysis from Wisconsin
CTR-004-004d	G-09 Translators	CTR-010-001	C-24 Site Specific Criteria
		CTR-010-002	C-14 Fish or Water Consumption

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CTR-010-003	C-21 Legal Concerns	CTR-019-004b	H Paperwork Reduction Act
CTR-011-001a	C-13 Risk Level	CTR-020-001	I-02a Applying WQBELs, Stormwater
CTR-011-001b	C-24 Site Specific Criteria	CTR-020-002	C-21 Legal Concerns
CTR-011-001c	E-01d Direct Dischargers	CTR-020-003	C-24 Site Specific Criteria
CTR-011-002	C-28 Detection Limits	CTR-020-004a	C-01 Mercury
CTR-012-001	F Endangered Species Act	CTR-020-004b	C-01 Mercury
CTR-013-001	I-01 Application Sec 301 vs. MEP	CTR-020-005	C-24a SSC Water Effect Ratios
CTR-013-002	J-01 MS4s/CSOs/Industries Costs	CTR-020-006	C-24a SSC Water Effect Ratios
CTR-013-003	J Storm Water Economics	CTR-020-007	C-08a Arsenic Human Health
CTR-013-004	C-28 Detection Limits	CTR-020-008	C-26 Avrging pds&Exceedence Freq.
CTR-013-005	I-03 Applicability of Criteria	CTR-020-009	C-26 Avrging pds&Exceedence Freq.
CTR-013-006a	I-04 Site-Specific Criteria	CTR-020-010	C-26 Avrging pds&Exceedence Freq.
CTR-013-006b	C-24e SSC Desgntd/Beneficial Uses	CTR-020-011	C-02b Copper Aquatic Life
CTR-013-007a	I-05 Compliance Schedules	CTR-020-012	C-02b Copper Aquatic Life
CTR-013-007b	G-02 Compliance Schedules	CTR-020-013	C-05b Lead Aquatic Life
CTR-013-008a	R RFA/SBREFA	CTR-020-014	C-26 Avrging pds&Exceedence Freq.
CTR-013-008b	J Storm Water Economics	CTR-020-015	C-26 Avrging pds&Exceedence Freq.
CTR-013-009	M Re-Open Comment Period	CTR-020-016	G-03 Design/Minimum Flows
CTR-014-001	I-01 Application Sec 301 vs. MEP	CTR-020-017	C-24e SSC Desgntd/Beneficial Uses
CTR-014-002	J-01 MS4s/CSOs/Industries Costs	CTR-020-018	C-12a THMs Human Health
CTR-014-003	J Storm Water Economics	CTR-020-019	G-05 Mixing Zones&Dilution Credit
CTR-014-004a	R RFA/SBREFA	CTR-020-020	C-28 Detection Limits
CTR-014-004b	J Storm Water Economics	CTR-020-021	G-02 Compliance Schedules
CTR-015-001	C-14 Fish or Water Consumption	CTR-020-022	I-02a Applying WQBELs, Stormwater
CTR-015-002	C-13 Risk Level	CTR-021-001	B Comment Period
CTR-015-003	T State Implementation Policy	CTR-021-002a	G-04 Interim Limits
CTR-015-004	G-05 Mixing Zones&Dilution Credit	CTR-021-002b	C-24a SSC Water Effect Ratios
CTR-015-005	G-07 Variances	CTR-021-002c	C-22 Dissolved v. Ttl Recoverable
CTR-015-006	G-02 Compliance Schedules	CTR-021-002d	K-01 TMDLs
CTR-016-001	C-24 Site Specific Criteria	CTR-021-002e	G-05 Mixing Zones&Dilution Credit
CTR-016-002	C-24 Site Specific Criteria	CTR-021-002f	G-02 Compliance Schedules
CTR-016-003	G-02 Compliance Schedules	CTR-021-003	K Water Shed Approach
CTR-016-004	C-15 Salinity	CTR-021-004	E-01g09 Affected Facilities
CTR-016-005	C-04b Selenium Aquatic Life	CTR-021-005a	C-13 Risk Level
CTR-016-006	C-19 FDA Action Levels	CTR-021-005b	C-28 Detection Limits
CTR-016-007	C-01 Mercury	CTR-021-005c	E-01c Executive Order 12866
CTR-016-008	C-09a Dioxin Human Health	CTR-021-005d	R RFA/SBREFA
CTR-017-001	C-24 Site Specific Criteria	CTR-021-005e	S UMRA
CTR-017-002a	C-22 Dissolved v. Ttl Recoverable	CTR-021-006a	J Storm Water Economics
CTR-017-002b	C-24a SSC Water Effect Ratios	CTR-021-006b	E-01c Executive Order 12866
CTR-018-001	J Storm Water Economics	CTR-021-006c	R RFA/SBREFA
CTR-019-001a	I-01 Application Sec 301 vs. MEP	CTR-021-006d	S UMRA
CTR-019-001b	J Storm Water Economics	CTR-021-006e	I-01 Application Sec 301 vs. MEP
CTR-019-002a	J Storm Water Economics	CTR-021-007	C-24 Site Specific Criteria
CTR-019-002b	S UMRA	CTR-021-008	E-01g Sample Facilities
CTR-019-003a	J Storm Water Economics	CTR-021-009	E-01h Treatment Assumptions
CTR-019-003b	R RFA/SBREFA	CTR-021-010	E-01g04 AMLs vs. MDLs
CTR-019-004a	I Stormwater/Wet Weather Flows	CTR-021-011	E-01e Indirect Dischargers

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CTR-021-012	E-01q	Source Reduction	CTR-027-006	I-03	Applicability of Criteria
CTR-021-013	E-01n	Detection Limits	CTR-027-007a	I-04	Site-Specific Criteria
CTR-021-014	E-01g	Sample Facilities	CTR-027-007b	C-24e	SSC Desgntd/Beneficial Uses
CTR-021-015	E-01i	Alternative Cost Analysis	CTR-027-008a	I-05	Compliance Schedules
CTR-021-016	E-01g06	Reasonable Potential	CTR-027-008b	G-02	Compliance Schedules
CTR-021-017	E-01b	Cost Triggers	CTR-027-009a	R	RFA/SBREFA
CTR-022-001	D	Preamble Editorial Comments	CTR-027-009b	J	Storm Water Economics
CTR-022-002	D	Preamble Editorial Comments	CTR-027-010	J	Storm Water Economics
CTR-022-003	G-02	Compliance Schedules	CTR-027-011	R	RFA/SBREFA
CTR-022-004	D	Preamble Editorial Comments	CTR-027-012a	C-22	Dissolved v. Ttl Recoverable
CTR-023-001	R	RFA/SBREFA	CTR-027-012b	C-24a	SSC Water Effect Ratios
CTR-024-001	I-01	Application Sec 301 vs. MEP	CTR-027-012c	C-01	Mercury
CTR-024-002	J-01	MS4s/CSOs/Industries Costs	CTR-027-012d	G-09	Translators
CTR-024-003	J	Storm Water Economics	CTR-027-012e	G-05	Mixing Zones&Dilution Credit
CTR-024-004a	R	RFA/SBREFA	CTR-027-013a	M	Re-Open Comment Period
CTR-024-004b	J	Storm Water Economics	CTR-027-013b	O	Offer of Assistance/Review
CTR-025-001a	C-16	SDWA	CTR-028-001a	R	RFA/SBREFA
CTR-025-001b	C-20	Scope Prty Toxic Poll. List	CTR-028-001b	J	Storm Water Economics
CTR-025-002a	C-17a	Methodologies Human Health	CTR-029-001	A	Anti-degradation
CTR-025-002b	C-16	SDWA	CTR-029-002a	C-17a	Methodologies Human Health
CTR-025-003a	C-17a	Methodologies Human Health	CTR-029-002b	C-17b	Methodologies Aquatic Life
CTR-025-003b	C-16	SDWA	CTR-029-002c	A	Anti-degradation
CTR-025-003c	C-12a	THMs Human Health	CTR-029-002d	C-22	Dissolved v. Ttl Recoverable
CTR-025-004a	C-02b	Copper Aquatic Life	CTR-029-002e	C-27	Additive/Synergistic Effects
CTR-025-004b	C-16	SDWA	CTR-029-002f	C-29	Bioaccumulation
CTR-025-005	C-24b	SSC Recalculation Procedure	CTR-029-003	C-14	Fish or Water Consumption
CTR-025-006a	B	Comment Period	CTR-029-004a	E-01c02	Bnfts do not Balance Cost
CTR-025-006b	C-16	SDWA	CTR-029-004b	E-02e	Include Omitted Benefits
CTR-026-001a	A	Anti-degradation	CTR-030-001	G-04	Interim Limits
CTR-026-001b	C-24e	SSC Desgntd/Beneficial Uses	CTR-030-002	L	Anti-Backsliding
CTR-026-002a	C-17b	Methodologies Aquatic Life	CTR-030-003	C-08a	Arsenic Human Health
CTR-026-002b	C-27	Additive/Synergistic Effects	CTR-030-004a	G-02	Compliance Schedules
CTR-026-002c	C-29	Bioaccumulation	CTR-030-004b	G-04	Interim Limits
CTR-026-003a	C-17b	Methodologies Aquatic Life	CTR-030-004c	I	Stormwater/Wet Weather Flows
CTR-026-003b	C-17a	Methodologies Human Health	CTR-030-005	C-04b	Selenium Aquatic Life
CTR-026-004	C-22	Dissolved v. Ttl Recoverable	CTR-030-006	C-01	Mercury
CTR-026-005	C-25	Hardness	CTR-030-007	C-01	Mercury
CTR-026-006	C-24	Site Specific Criteria	CTR-030-008	G-09	Translators
CTR-026-007a	C-14	Fish or Water Consumption	CTR-030-009	C-28	Detection Limits
CTR-026-007b	C-17a	Methodologies Human Health	CTR-030-010	I-01	Application Sec 301 vs. MEP
CTR-026-008	C-20	Scope Prty Toxic Poll. List	CTR-030-011	C-04b	Selenium Aquatic Life
CTR-026-009	E-02d	Passive Use Value	CTR-030-012	C-04b	Selenium Aquatic Life
CTR-027-001	I-01	Application Sec 301 vs. MEP	CTR-030-013	C-04b	Selenium Aquatic Life
CTR-027-002	J-01	MS4s/CSOs/Industries Costs	CTR-030-014	C-04b	Selenium Aquatic Life
CTR-027-003	J	Storm Water Economics	CTR-030-015	C-04b	Selenium Aquatic Life
CTR-027-004	C-28	Detection Limits	CTR-030-016	C-04b	Selenium Aquatic Life
CTR-027-005a	G-03	Design/Minimum Flows	CTR-031-001a	I-01	Application Sec 301 vs. MEP
CTR-027-005b	T	State Implementation Policy	CTR-031-001b	I-02	Elliott Memorandum

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CTR-031-002a	F Endangered Species Act	CTR-034-005	R RFA/SBREFA
CTR-031-002b	C-17a Methodologies Human Health	CTR-034-006	F Endangered Species Act
CTR-031-002c	C-17b Methodologies Aquatic Life	CTR-034-007	C-24d SSC Effluent Dependent Wtr
CTR-031-002d	J Storm Water Economics	CTR-034-008	C-22 Dissolved v. Ttl Recoverable
CTR-031-002e	V Collaborative Approach	CTR-034-009	C-24a SSC Water Effect Ratios
CTR-031-003a	C-21 Legal Concerns	CTR-034-010a	C-28 Detection Limits
CTR-031-003b	I-03 Applicability of Criteria	CTR-034-010b	C-21 Legal Concerns
CTR-031-004a	C-17a Methodologies Human Health	CTR-034-011	K Water Shed Approach
CTR-031-004b	C-17b Methodologies Aquatic Life	CTR-034-012a	G-04 Interim Limits
CTR-031-004c	I Stormwater/Wet Weather Flows	CTR-034-012b	K-01 TMDLs
CTR-031-005a	G-02 Compliance Schedules	CTR-034-013	G-02 Compliance Schedules
CTR-031-005b	I Stormwater/Wet Weather Flows	CTR-034-014a	E-01g08 Discharger Representation
CTR-031-006a	J Storm Water Economics	CTR-034-014b	E-01b Cost Triggers
CTR-031-006b	R RFA/SBREFA	CTR-034-014c	E-01e Indirect Dischargers
CTR-031-006c	E-01c Executive Order 12866	CTR-034-014d	E-01v Discharge Over Time
CTR-031-007a	F Endangered Species Act	CTR-034-014e	J Storm Water Economics
CTR-031-007b	J-04 End-of-Pipe Treatment v. BMP	CTR-034-015	E-02 Benefits Analysis
CTR-031-008a	B Comment Period	CTR-034-016	E-01u Economic Consid. Task Force
CTR-031-008b	V Collaborative Approach	CTR-034-017	M Re-Open Comment Period
CTR-031-009	R RFA/SBREFA	CTR-035-001	B Comment Period
CTR-031-010	M Re-Open Comment Period	CTR-035-002a	C-22 Dissolved v. Ttl Recoverable
CTR-032-001	E-01m Regulatory Relief	CTR-035-002b	C-01 Mercury
CTR-032-002a	G-01 Reasonable Potential	CTR-035-002c	C-08a Arsenic Human Health
CTR-032-002b	C-22 Dissolved v. Ttl Recoverable	CTR-035-002d	G-05 Mixing Zones&Dilution Credit
CTR-032-002c	G-09 Translators	CTR-035-002e	G-04 Interim Limits
CTR-032-002d	C-24a SSC Water Effect Ratios	CTR-035-002f	G-09 Translators
CTR-032-002e	C-24 Site Specific Criteria	CTR-035-002g	K-01 TMDLs
CTR-032-002f	K Water Shed Approach	CTR-035-002h	C-24a SSC Water Effect Ratios
CTR-032-002g	G-04 Interim Limits	CTR-035-003	K Water Shed Approach
CTR-032-002h	G-05 Mixing Zones&Dilution Credit	CTR-035-004	C-13 Risk Level
CTR-032-002i	G-02 Compliance Schedules	CTR-035-005	C-28 Detection Limits
CTR-032-003	T State Implementation Policy	CTR-035-006	C-24d SSC Effluent Dependent Wtr
CTR-032-004	E-01m Regulatory Relief	CTR-035-007	C-24e SSC Desgntd/Beneficial Uses
CTR-032-005a	V Collaborative Approach	CTR-035-008a	E-01g08 Discharger Representation
CTR-032-005b	T State Implementation Policy	CTR-035-008b	E-01e Indirect Dischargers
CTR-032-006a	C-01 Mercury	CTR-035-008c	E-01d Direct Dischargers
CTR-032-006b	C-24 Site Specific Criteria	CTR-035-008d	E-01m Regulatory Relief
CTR-032-007	K Water Shed Approach	CTR-035-008e	E-01h Treatment Assumptions
CTR-032-008a	E-01u Economic Consid. Task Force	CTR-035-008f	E-01c Executive Order 12866
CTR-032-008b	E-01c02 Bnfts do not Balance Cost	CTR-035-009a	E-02f Use More Recent Data
CTR-033-001	C-02b Copper Aquatic Life	CTR-035-009b	E-02c Overstated Benefits
CTR-033-002	C-24c SSC Santa Ana River	CTR-035-010	E-01c Executive Order 12866
CTR-033-003a	C-28 Detection Limits	CTR-035-011a	E-01u Economic Consid. Task Force
CTR-033-003b	E-01n Detection Limits	CTR-035-011b	M Re-Open Comment Period
CTR-034-001	B Comment Period	CTR-035-012a	C-21 Legal Concerns
CTR-034-002	V Collaborative Approach	CTR-035-012b	C-28 Detection Limits
CTR-034-003	E-01c01 \$100M Threshold	CTR-035-013	D Preamble Editorial Comments
CTR-034-004	S UMRA	CTR-035-014	C-24 Site Specific Criteria

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CTR-035-015	D Preamble Editorial Comments	CTR-035-056a	E-01c02 Bnfts do not Balance Cost
CTR-035-016	C-22 Dissolved v. Ttl Recoverable	CTR-035-056b	E-01c01 \$100M Threshold
CTR-035-017	C-18 Conversion Factors	CTR-035-056c	E-01p Risk Level Costs
CTR-035-018	G-09 Translators	CTR-035-057	E-01a03 Model 1 Weaknesses
CTR-035-019	C-24a SSC Water Effect Ratios	CTR-035-058	E-01a02 Cost Diff. for Eff. Limit
CTR-035-020	C-26 Avrging pds&Exceedence Freq.	CTR-035-059	E-01g Sample Facilities
CTR-035-021	C-13 Risk Level	CTR-035-060	E-01r Economic Variances
CTR-035-022	C-14 Fish or Water Consumption	CTR-035-061	E-01d Direct Dischargers
CTR-035-023	C-17c Meth.New Human Health Meth.	CTR-035-062	E-01q Source Reduction
CTR-035-024	C-09a Dioxin Human Health	CTR-035-063	E-01g08 Discharger Representation
CTR-035-025	C-08a Arsenic Human Health	CTR-035-064	E-01c02 Bnfts do not Balance Cost
CTR-035-026	C-01 Mercury	CTR-035-065a	E-02k Long-Term Contamination
CTR-035-027	C-13 Risk Level	CTR-035-065b	E-02c Overstated Benefits
CTR-035-028	C-26 Avrging pds&Exceedence Freq.	CTR-035-066	E-02g Benefits & Poll. Reduction
CTR-035-029	G-03 Design/Minimum Flows	CTR-035-067	E-02l Marginal Impacts/Benefits
CTR-035-030	C-15 Salinity	CTR-035-068	E-02c Overstated Benefits
CTR-035-031	C-26 Avrging pds&Exceedence Freq.	CTR-035-069	E-02m Few Pollutant Mask Analysis
CTR-035-032a	K-01 TMDLs	CTR-035-070	E-02h Un-Enclose,Enclose Bay Data
CTR-035-032b	K-03 Watershed/Effluent Trading	CTR-035-071	E-02 Benefits Analysis
CTR-035-033	G-04 Interim Limits	CTR-035-072	E-02 Benefits Analysis
CTR-035-034	G-05 Mixing Zones&Dilution Credit	CTR-036-001	I-01 Application Sec 301 vs. MEP
CTR-035-035	G-07 Variances	CTR-036-002a	J Storm Water Economics
CTR-035-036	I-01 Application Sec 301 vs. MEP	CTR-036-002b	E-01c Executive Order 12866
CTR-035-037	G-02 Compliance Schedules	CTR-036-003a	S UMRA
CTR-035-038	C-24e SSC Desgntd/Beneficial Uses	CTR-036-003b	J Storm Water Economics
CTR-035-039	E-01c Executive Order 12866	CTR-036-004a	J Storm Water Economics
CTR-035-040	S UMRA	CTR-036-004b	R RFA/SBREFA
CTR-035-041	R RFA/SBREFA	CTR-036-005	C-21 Legal Concerns
CTR-035-042	F Endangered Species Act	CTR-036-006	C-28 Detection Limits
CTR-035-043	E-01c02 Bnfts do not Balance Cost	CTR-036-007a	C-26 Avrging pds&Exceedence Freq.
CTR-035-044a	E-01c01 \$100M Threshold	CTR-036-007b	G-03 Design/Minimum Flows
CTR-035-044b	E-01d01 Cost Estmt by Commenter	CTR-036-008	I Stormwater/Wet Weather Flows
CTR-035-044c	J Storm Water Economics	CTR-036-009	C-24d SSC Effluent Dependent Wtr
CTR-035-045	E-01a03 Model 1 Weaknesses	CTR-036-010a	G-02 Compliance Schedules
CTR-035-046a	E-01g08 Discharger Representation	CTR-036-010b	I Stormwater/Wet Weather Flows
CTR-035-046b	E-01g09 Affected Facilities	CTR-036-011	K Water Shed Approach
CTR-035-047a	E-01b Cost Triggers	CTR-036-012	D Preamble Editorial Comments
CTR-035-047b	E-01m Regulatory Relief	CTR-037-001a	C-24 Site Specific Criteria
CTR-035-048	E-01g09 Affected Facilities	CTR-037-001b	G-01 Reasonable Potential
CTR-035-049	E-01e Indirect Dischargers	CTR-037-002	C-17b Methodologies Aquatic Life
CTR-035-050	E-01p Risk Level Costs	CTR-037-003a	C-17b Methodologies Aquatic Life
CTR-035-051a	E-02g Benefits & Poll. Reduction	CTR-037-003b	C-17a Methodologies Human Health
CTR-035-051b	E-02f Use More Recent Data	CTR-037-004	B Comment Period
CTR-035-051c	E-02k Long-Term Contamination	CTR-037-005	G-03 Design/Minimum Flows
CTR-035-052	E-02l Marginal Impacts/Benefits	CTR-037-006	C-28 Detection Limits
CTR-035-053	E-02h Un-Enclose,Enclose Bay Data	CTR-037-007	C-26 Avrging pds&Exceedence Freq.
CTR-035-054	E-02i Impaired Waters Assumptions	CTR-037-008	I-03 Applicability of Criteria
CTR-035-055	E-02d Passive Use Value	CTR-037-009	C-26 Avrging pds&Exceedence Freq.

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CTR-037-010	C-10b PCBs Aquatic Life	CTR-040-002d	G-05 Mixing Zones&Dilution Credit
CTR-038-001	B Comment Period	CTR-040-003	I-01 Application Sec 301 vs. MEP
CTR-038-002a	C-22 Dissolved v. Ttl Recoverable	CTR-040-004	J Storm Water Economics
CTR-038-002b	C-24a SSC Water Effect Ratios	CTR-040-005	I-07 Attainability of Criteria
CTR-038-002c	C-01 Mercury	CTR-040-006	J Storm Water Economics
CTR-038-002d	G-04 Interim Limits	CTR-040-007	J Storm Water Economics
CTR-038-002e	G-05 Mixing Zones&Dilution Credit	CTR-040-008a	E-01c02 Bnfts do not Balance Cost
CTR-038-002f	G-09 Translators	CTR-040-008b	E-01m Regulatory Relief
CTR-038-003	E-01d01 Cost Estmte by Commenter	CTR-040-008c	E-02c Overstated Benefits
CTR-038-004a	E-01g08 Discharger Representation	CTR-040-009a	R RFA/SBREFA
CTR-038-004b	E-01h Treatment Assumptions	CTR-040-009b	S UMRA
CTR-038-004c	E-01m Regulatory Relief	CTR-040-009c	E-01c Executive Order 12866
CTR-038-004d	E-01c02 Bnfts do not Balance Cost	CTR-040-010a	J Storm Water Economics
CTR-038-005a	E-01c Executive Order 12866	CTR-040-010b	R RFA/SBREFA
CTR-038-005b	R RFA/SBREFA	CTR-040-011	C-21 Legal Concerns
CTR-038-005c	S UMRA	CTR-040-012a	E-01c Executive Order 12866
CTR-038-006a	C-21 Legal Concerns	CTR-040-012b	S UMRA
CTR-038-006b	E-01c Executive Order 12866	CTR-040-013	R RFA/SBREFA
CTR-038-006c	R RFA/SBREFA	CTR-040-014a	I-02 Elliott Memorandum
CTR-038-006d	S UMRA	CTR-040-014b	J Storm Water Economics
CTR-038-007	C-24 Site Specific Criteria	CTR-040-015a	S UMRA
CTR-038-008a	C-24 Site Specific Criteria	CTR-040-015b	C-13 Risk Level
CTR-038-008b	E-01c Executive Order 12866	CTR-040-016a	C-24d SSC Effluent Dependent Wtr
CTR-038-008c	R RFA/SBREFA	CTR-040-016b	C-21 Legal Concerns
CTR-038-008d	S UMRA	CTR-040-017	C-28 Detection Limits
CTR-038-008e	T State Implementation Policy	CTR-040-018a	C-26 Avrging pds&Exceedence Freq.
CTR-038-009a	C-28 Detection Limits	CTR-040-018b	G-03 Design/Minimum Flows
CTR-038-009b	E-01n Detection Limits	CTR-040-018c	C-30 Narrative Criteria
CTR-038-009c	R RFA/SBREFA	CTR-040-018d	C-24e SSC Desgntd/Beneficial Uses
CTR-038-009d	S UMRA	CTR-040-019	G-02 Compliance Schedules
CTR-038-010	C-30 Narrative Criteria	CTR-040-020	E-01 Cost Analysis
CTR-038-011	C-15 Salinity	CTR-040-021	O Offer of Assistance/Review
CTR-038-012	G-02 Compliance Schedules	CTR-040-022	E-01 Cost Analysis
CTR-038-013	M Re-Open Comment Period	CTR-040-023	E-01 Cost Analysis
CTR-039-001	C-24 Site Specific Criteria	CTR-040-024	E-01g08 Discharger Representation
CTR-039-002	A Anti-degradation	CTR-040-025	J-05 BMPs Inability to Comply
CTR-039-003a	C-22 Dissolved v. Ttl Recoverable	CTR-040-026	E-01a03 Model 1 Weaknesses
CTR-039-003b	A Anti-degradation	CTR-040-027	E-01g05 Effluent Data
CTR-039-004	C-14 Fish or Water Consumption	CTR-040-028	E-01n01 Non-Detects, No Cost
CTR-039-005	C-01 Mercury	CTR-040-029a	E-01q01 25% Assumption
CTR-039-006	C-09a Dioxin Human Health	CTR-040-029b	E-01h01 25% Reduction Assumption
CTR-039-007	G-02 Compliance Schedules	CTR-040-030	E-01q Source Reduction
CTR-039-008	G-04 Interim Limits	CTR-040-031	E-01m Regulatory Relief
CTR-039-009	C-24 Site Specific Criteria	CTR-040-032	E-01h Treatment Assumptions
CTR-040-001	O Offer of Assistance/Review	CTR-040-033	E-01b Cost Triggers
CTR-040-002a	C-24a SSC Water Effect Ratios	CTR-040-034	J-01 MS4s/CSOs/Industries Costs
CTR-040-002b	C-01 Mercury	CTR-040-035	E-01a Baselines
CTR-040-002c	G-09 Translators	CTR-040-036	E-01m Regulatory Relief

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CTR-040-037	E-01e02	No Costs for Non-SIUs	CTR-041-021	J-05	BMPs Inability to Comply
CTR-040-038	E-01h	Treatment Assumptions	CTR-041-022	E-01a03	Model 1 Weaknesses
CTR-040-039	E-01g03	Cost Effectiveness Ratio	CTR-041-023	E-01g05	Effluent Data
CTR-040-040	E-01b	Cost Triggers	CTR-041-024	E-01n01	Non-Detects, No Cost
CTR-040-041	E-01m	Regulatory Relief	CTR-041-025a	E-01q01	25% Assumption
CTR-040-042	E-01c02	Bnfts do not Balance Cost	CTR-041-025b	E-01h01	25% Reduction Assumption
CTR-040-043	E-02c	Overstated Benefits	CTR-041-026	E-01q	Source Reduction
CTR-040-044	E-02g	Benefits & Poll. Reduction	CTR-041-027	E-01m	Regulatory Relief
CTR-040-045	E-02o	Analysis from Wisconsin	CTR-041-028	E-01h	Treatment Assumptions
CTR-040-046	E-02i	Impaired Waters Assumptions	CTR-041-029	E-01b	Cost Triggers
CTR-040-047	E-02d	Passive Use Value	CTR-041-030	J-01	MS4s/CSOs/Industries Costs
CTR-040-048	K-01	TMDLs	CTR-041-031	E-01a	Baselines
CTR-040-049	G-07	Variances	CTR-041-032	E-01m	Regulatory Relief
CTR-040-050	C-24	Site Specific Criteria	CTR-041-033	E-01e02	No Costs for Non-SIUs
CTR-040-051	G-05	Mixing Zones&Dilution Credit	CTR-041-034	E-01h	Treatment Assumptions
CTR-040-052	E-02	Benefits Analysis	CTR-041-035	E-01g03	Cost Effectiveness Ratio
CTR-040-055	S	UMRA	CTR-041-036	E-01b	Cost Triggers
CTR-040-056	R	RFA/SBREFA	CTR-041-037	E-01m	Regulatory Relief
CTR-040-056	R	RFA/SBREFA	CTR-041-038	E-01c02	Bnfts do not Balance Cost
CTR-041-001	B	Comment Period	CTR-041-039	E-02c	Overstated Benefits
CTR-041-002	C-22	Dissolved v. Ttl Recoverable	CTR-041-040	E-02g	Benefits & Poll. Reduction
CTR-041-003a	G-09	Translators	CTR-041-041	E-02o	Analysis from Wisconsin
CTR-041-003b	C-24a	SSC Water Effect Ratios	CTR-041-042	E-02i	Impaired Waters Assumptions
CTR-041-004	C-01	Mercury	CTR-041-043	E-02d	Passive Use Value
CTR-041-005	C-08a	Arsenic Human Health	CTR-041-044	K-01	TMDLs
CTR-041-006a	G-04	Interim Limits	CTR-041-045	G-07	Variances
CTR-041-006b	G-05	Mixing Zones&Dilution Credit	CTR-041-046	C-24	Site Specific Criteria
CTR-041-007a	C-01	Mercury	CTR-041-047	G-05	Mixing Zones&Dilution Credit
CTR-041-007b	C-22	Dissolved v. Ttl Recoverable	CTR-041-048	E-02	Benefits Analysis
CTR-041-008a	C-28	Detection Limits	CTR-042-001	I-01	Application Sec 301 vs. MEP
CTR-041-008b	E-01n	Detection Limits	CTR-042-002	J-04	End-of-Pipe Treatment v. BMP
CTR-041-009	E-01d01	Cost Estmte by Commenter	CTR-042-003	C-28	Detection Limits
CTR-041-010a	E-01n	Detection Limits	CTR-042-004	I	Stormwater/Wet Weather Flows
CTR-041-010b	E-01m	Regulatory Relief	CTR-042-005	C-24d	SSC Effluent Dependent Wtr
CTR-041-010c	E-01e	Indirect Dischargers	CTR-042-006	C-22	Dissolved v. Ttl Recoverable
CTR-041-010d	E-01g	Sample Facilities	CTR-042-007a	C-21	Legal Concerns
CTR-041-011	C-30	Narrative Criteria	CTR-042-007b	E-01c	Executive Order 12866
CTR-041-012	G-02	Compliance Schedules	CTR-042-007c	S	UMRA
CTR-041-013a	E-01c	Executive Order 12866	CTR-043-001	B	Comment Period
CTR-041-013b	R	RFA/SBREFA	CTR-043-002a	C-22	Dissolved v. Ttl Recoverable
CTR-041-013c	S	UMRA	CTR-043-002b	C-24a	SSC Water Effect Ratios
CTR-041-014	C-21	Legal Concerns	CTR-043-002c	C-01	Mercury
CTR-041-015	E-01c	Executive Order 12866	CTR-043-002d	G-04	Interim Limits
CTR-041-016	S	UMRA	CTR-043-002e	G-05	Mixing Zones&Dilution Credit
CTR-041-017	R	RFA/SBREFA	CTR-043-002f	G-09	Translators
CTR-041-018	E-01	Cost Analysis	CTR-043-003	E-01e02	No Costs for Non-SIUs
CTR-041-019	E-01	Cost Analysis	CTR-043-004a	E-01g	Sample Facilities
CTR-041-020	E-01g08	Discharger Representation	CTR-043-004b	E-01h	Treatment Assumptions

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CTR-043-004c	E-01m Regulatory Relief	CTR-044-017	E-01a03 Model 1 Weaknesses
CTR-043-004d	E-02c Overstated Benefits	CTR-044-018	E-01g05 Effluent Data
CTR-043-004e	E-01c02 Bnfts do not Balance Cost	CTR-044-019	E-01n01 Non-Detects, No Cost
CTR-043-005a	C-21 Legal Concerns	CTR-044-020a	E-01q01 25% Assumption
CTR-043-005b	E-01c Executive Order 12866	CTR-044-020b	E-01h01 25% Reduction Assumption
CTR-043-005c	R RFA/SBREFA	CTR-044-021	E-01q Source Reduction
CTR-043-005d	S UMRA	CTR-044-022	E-01m Regulatory Relief
CTR-043-006a	C-24 Site Specific Criteria	CTR-044-023	E-01h Treatment Assumptions
CTR-043-006b	C-13 Risk Level	CTR-044-024	E-01b Cost Triggers
CTR-043-007	C-24d SSC Effluent Dependent Wtr	CTR-044-025	J-01 MS4s/CSOs/Industries Costs
CTR-043-008	C-28 Detection Limits	CTR-044-026	E-01a Baselines
CTR-043-009	C-30 Narrative Criteria	CTR-044-027	E-01m Regulatory Relief
CTR-043-010	G-02 Compliance Schedules	CTR-044-028	E-01e02 No Costs for Non-SIUs
CTR-043-011	M Re-Open Comment Period	CTR-044-029	E-01h Treatment Assumptions
CTR-044-001	B Comment Period	CTR-044-030	E-01g03 Cost Effectiveness Ratio
CTR-044-002	B Comment Period	CTR-044-031	E-01b Cost Triggers
CTR-044-003a	C-22 Dissolved v. Ttl Recoverable	CTR-044-032	E-01m Regulatory Relief
CTR-044-003b	C-24a SSC Water Effect Ratios	CTR-044-033	E-01c02 Bnfts do not Balance Cost
CTR-044-003c	C-01 Mercury	CTR-044-034	E-02c Overstated Benefits
CTR-044-003d	G-09 Translators	CTR-044-035	E-02g Benefits & Poll. Reduction
CTR-044-003e	G-05 Mixing Zones&Dilution Credit	CTR-044-036	E-02o Analysis from Wisconsin
CTR-044-003f	G-04 Interim Limits	CTR-044-037	E-02i Impaired Waters Assumptions
CTR-044-004	E-01d01 Cost Estmte by Commenter	CTR-044-038	E-02d Passive Use Value
CTR-044-005a	E-01g08 Discharger Representation	CTR-044-039	K-01 TMDLs
CTR-044-005b	E-01h01 25% Reduction Assumption	CTR-044-040	G-07 Variances
CTR-044-005c	E-01m Regulatory Relief	CTR-044-041	C-24 Site Specific Criteria
CTR-044-005d	E-02c Overstated Benefits	CTR-044-042	G-05 Mixing Zones&Dilution Credit
CTR-044-005e	E-01c02 Bnfts do not Balance Cost	CTR-044-043	E-02 Benefits Analysis
CTR-044-005f	R RFA/SBREFA	CTR-044-044	C-21 Legal Concerns
CTR-044-005g	S UMRA	CTR-044-045	E-01c Executive Order 12866
CTR-044-006a	C-21 Legal Concerns	CTR-044-046	S UMRA
CTR-044-006b	E-01c Executive Order 12866	CTR-044-047	R RFA/SBREFA
CTR-044-006c	R RFA/SBREFA	CTR-045-001	B Comment Period
CTR-044-006d	S UMRA	CTR-045-002	G-04 Interim Limits
CTR-044-007a	C-13 Risk Level	CTR-045-003	G-02 Compliance Schedules
CTR-044-007b	C-24 Site Specific Criteria	CTR-045-004	C-22 Dissolved v. Ttl Recoverable
CTR-044-008	C-24d SSC Effluent Dependent Wtr	CTR-045-005	C-24a SSC Water Effect Ratios
CTR-044-009a	C-28 Detection Limits	CTR-045-006	C-01 Mercury
CTR-044-009b	E-01c Executive Order 12866	CTR-045-007	C-08a Arsenic Human Health
CTR-044-009c	R RFA/SBREFA	CTR-045-008	G-05 Mixing Zones&Dilution Credit
CTR-044-009d	S UMRA	CTR-045-009a	E-01g08 Discharger Representation
CTR-044-010	C-30 Narrative Criteria	CTR-045-009b	E-01h Treatment Assumptions
CTR-044-011	G-02 Compliance Schedules	CTR-045-009c	E-01m Regulatory Relief
CTR-044-012	M Re-Open Comment Period	CTR-045-010	E-02f Use More Recent Data
CTR-044-013	E-01 Cost Analysis	CTR-045-011	E-01n Detection Limits
CTR-044-014	E-01 Cost Analysis	CTR-045-012a	E-01d Direct Dischargers
CTR-044-015	E-01g08 Discharger Representation	CTR-045-012b	E-01c Executive Order 12866
CTR-044-016	J-05 BMPs Inability to Comply	CTR-045-013	E-01c01 \$100M Threshold

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CTR-045-014	E-01u Economic Consid. Task Force	CTR-052-012	E-01g10 Toxic Pound Equivalents
CTR-047-001	E-01 Cost Analysis	CTR-052-013	B Comment Period
CTR-047-002	J-04 End-of-Pipe Treatment v. BMP	CTR-052-014	E-01g02 Another EA for Sample Fac
CTR-047-003	J Storm Water Economics	CTR-052-015	T State Implementation Policy
CTR-047-004a	J Storm Water Economics	CTR-052-016	E-01p Risk Level Costs
CTR-047-004b	R RFA/SBREFA	CTR-052-017	C-24 Site Specific Criteria
CTR-049-001	B Comment Period	CTR-052-018	C-28 Detection Limits
CTR-049-002	C-24a SSC Water Effect Ratios	CTR-052-019	G-05 Mixing Zones&Dilution Credit
CTR-049-003	C-13 Risk Level	CTR-052-020	G-02 Compliance Schedules
CTR-049-004	C-24d SSC Effluent Dependent Wtr	CTR-052-021a	C-21 Legal Concerns
CTR-049-005	C-24e SSC Desgntd/Beneficial Uses	CTR-052-021b	E-01c Executive Order 12866
CTR-049-006a	E-01g08 Discharger Representation	CTR-052-021c	R RFA/SBREFA
CTR-049-006b	E-01h Treatment Assumptions	CTR-052-021d	S UMRA
CTR-049-006c	E-01m Regulatory Relief	CTR-052-022	M Re-Open Comment Period
CTR-049-007	E-01u Economic Consid. Task Force	CTR-053-001	M Re-Open Comment Period
CTR-050-001	C-21 Legal Concerns	CTR-053-002	C-30 Narrative Criteria
CTR-050-002	C-21 Legal Concerns	CTR-053-003a	C-01 Mercury
CTR-050-003	C-21 Legal Concerns	CTR-053-003b	C-02b Copper Aquatic Life
CTR-050-004	C-21 Legal Concerns	CTR-053-003c	C-09a Dioxin Human Health
CTR-050-005a	C-24 Site Specific Criteria	CTR-053-004	G-02 Compliance Schedules
CTR-050-005b	G-07 Variances	CTR-053-005	T State Implementation Policy
CTR-050-006	C-13 Risk Level	CTR-053-006	C-24 Site Specific Criteria
CTR-050-007a	C-21 Legal Concerns	CTR-054-001	B Comment Period
CTR-050-007b	E-01c Executive Order 12866	CTR-054-002a	C-22 Dissolved v. Ttl Recoverable
CTR-050-007c	R RFA/SBREFA	CTR-054-002b	C-24a SSC Water Effect Ratios
CTR-050-007d	S UMRA	CTR-054-003	C-01 Mercury
CTR-051-001	C-24 Site Specific Criteria	CTR-054-004a	G-09 Translators
CTR-051-002	C-04b Selenium Aquatic Life	CTR-054-004b	G-05 Mixing Zones&Dilution Credit
CTR-051-003a	C-01 Mercury	CTR-054-004c	G-04 Interim Limits
CTR-051-003b	C-01 Mercury	CTR-054-005	E-01d01 Cost Estmte by Commenter
CTR-052-001	B Comment Period	CTR-054-006	E-02l Marginal Impacts/Benefits
CTR-052-002a	C-22 Dissolved v. Ttl Recoverable	CTR-054-007	C-13 Risk Level
CTR-052-002b	C-01 Mercury	CTR-054-008a	C-02b Copper Aquatic Life
CTR-052-002c	G-09 Translators	CTR-054-008b	C-24 Site Specific Criteria
CTR-052-002d	G-05 Mixing Zones&Dilution Credit	CTR-054-008c	E-01c Executive Order 12866
CTR-052-002e	G-04 Interim Limits	CTR-054-008d	R RFA/SBREFA
CTR-052-003a	C-13 Risk Level	CTR-054-008e	S UMRA
CTR-052-003b	E-01 Cost Analysis	CTR-054-009	C-28 Detection Limits
CTR-052-003c	E-02 Benefits Analysis	CTR-054-010	C-30 Narrative Criteria
CTR-052-004	D Preamble Editorial Comments	CTR-054-011	C-15 Salinity
CTR-052-005a	E-01i Alternative Cost Analysis	CTR-054-012	G-02 Compliance Schedules
CTR-052-005b	E-01d01 Cost Estmte by Commenter	CTR-054-013a	E-01g03 Cost Effectiveness Ratio
CTR-052-006	E-01d Direct Dischargers	CTR-054-013b	E-01q01 25% Assumption
CTR-052-007	E-02 Benefits Analysis	CTR-054-013c	E-01m Regulatory Relief
CTR-052-008	C-24 Site Specific Criteria	CTR-054-013d	E-02l Marginal Impacts/Benefits
CTR-052-009	E-01i Alternative Cost Analysis	CTR-054-014	C-21 Legal Concerns
CTR-052-010	E-01d01 Cost Estmte by Commenter	CTR-054-015	V Collaborative Approach
CTR-052-011	E-01d Direct Dischargers	CTR-054-016	M Re-Open Comment Period

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CTR-054-017	E-01 Cost Analysis	CTR-056-009	C-24a SSC Water Effect Ratios
CTR-054-018	E-01 Cost Analysis	CTR-056-010	G-02 Compliance Schedules
CTR-054-019	E-01g08 Discharger Representation	CTR-056-011	C-24d SSC Effluent Dependent Wtr
CTR-054-020	J-05 BMPs Inability to Comply	CTR-056-012	C-13 Risk Level
CTR-054-021	E-01a03 Model 1 Weaknesses	CTR-056-013	C-24e SSC Desgntd/Beneficial Uses
CTR-054-022	E-01g05 Effluent Data	CTR-056-014	C-28 Detection Limits
CTR-054-023	E-01n01 Non-Detects, No Cost	CTR-056-015a	I-01 Application Sec 301 vs. MEP
CTR-054-024a	E-01q01 25% Assumption	CTR-056-015b	C-24 Site Specific Criteria
CTR-054-024b	E-01h01 25% Reduction Assumption	CTR-056-016	E-01g03 Cost Effectiveness Ratio
CTR-054-025	E-01q Source Reduction	CTR-056-017	E-01g03 Cost Effectiveness Ratio
CTR-054-026	E-01m Regulatory Relief	CTR-056-018	E-01b Cost Triggers
CTR-054-027	E-01h Treatment Assumptions	CTR-056-019	E-01b Cost Triggers
CTR-054-028	E-01b Cost Triggers	CTR-056-020	E-01d01 Cost Estmte by Commenter
CTR-054-029	J-01 MS4s/CSOs/Industries Costs	CTR-056-021	E-02f Use More Recent Data
CTR-054-030	E-01a Baselines	CTR-056-022a	E-01e Indirect Dischargers
CTR-054-031	E-01m Regulatory Relief	CTR-056-022b	S UMRA
CTR-054-032	E-01e02 No Costs for Non-SIUs	CTR-056-023	E-01u Economic Consid. Task Force
CTR-054-033	E-01h Treatment Assumptions	CTR-057-001	E-01g02 Another EA for Sample Fac
CTR-054-034	E-01g03 Cost Effectiveness Ratio	CTR-057-002	B Comment Period
CTR-054-035	E-01b Cost Triggers	CTR-057-003	C-24d SSC Effluent Dependent Wtr
CTR-054-036	E-01m Regulatory Relief	CTR-057-004	C-28 Detection Limits
CTR-054-037	E-01c02 Bnfts do not Balance Cost	CTR-057-005	C-13 Risk Level
CTR-054-038	E-02c Overstated Benefits	CTR-057-006	C-22 Dissolved v. Ttl Recoverable
CTR-054-039	E-02g Benefits & Poll. Reduction	CTR-057-007	C-17a Methodologies Human Health
CTR-054-040	E-02o Analysis from Wisconsin	CTR-057-008	P Whole Effluent Toxicity
CTR-054-041	E-02i Impaired Waters Assumptions	CTR-057-009	T State Implementation Policy
CTR-054-042	E-02d Passive Use Value	CTR-057-010a	K-01 TMDLs
CTR-054-043	K-01 TMDLs	CTR-057-010b	G-07 Variances
CTR-054-044	G-07 Variances	CTR-057-010c	C-24 Site Specific Criteria
CTR-054-045	C-24 Site Specific Criteria	CTR-057-011	C-24 Site Specific Criteria
CTR-054-046	G-05 Mixing Zones&Dilution Credit	CTR-058-001	C-13 Risk Level
CTR-054-047	E-02 Benefits Analysis	CTR-058-002	B Comment Period
CTR-054-048	C-21 Legal Concerns	CTR-058-003	C-22 Dissolved v. Ttl Recoverable
CTR-054-049	E-01c Executive Order 12866	CTR-058-004	C-15 Salinity
CTR-054-050	S UMRA	CTR-058-005	C-04b Selenium Aquatic Life
CTR-054-051	R RFA/SBREFA	CTR-058-006	C-04b Selenium Aquatic Life
CTR-055-001	C-13 Risk Level	CTR-058-007	G-02 Compliance Schedules
CTR-055-002a	C-21 Legal Concerns	CTR-058-008	G-05 Mixing Zones&Dilution Credit
CTR-055-002b	T State Implementation Policy	CTR-058-009	C-20 Scope Prty Toxic Poll. List
CTR-055-003	E-01c Executive Order 12866	CTR-058-010	C-01 Mercury
CTR-056-001	B Comment Period	CTR-058-011	K-01 TMDLs
CTR-056-002	G-04 Interim Limits	CTR-058-012	C-09a Dioxin Human Health
CTR-056-003	C-01 Mercury	CTR-058-013	C-07b Cyanide Aquatic Life
CTR-056-004	C-08a Arsenic Human Health	CTR-059-001	E-01d01 Cost Estmte by Commenter
CTR-056-005	C-22 Dissolved v. Ttl Recoverable	CTR-059-002a	E-01c Executive Order 12866
CTR-056-006	C-24a SSC Water Effect Ratios	CTR-059-002b	R RFA/SBREFA
CTR-056-007	G-05 Mixing Zones&Dilution Credit	CTR-059-002c	S UMRA
CTR-056-008	G-09 Translators	CTR-059-003	B Comment Period

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CTR-059-004a	E-01c Executive Order 12866	CTR-061-001	I-09 Pesticides in Runoff
CTR-059-004b	M Re-Open Comment Period	CTR-061-002	J Storm Water Economics
CTR-059-005	M Re-Open Comment Period	CTR-061-003	J Storm Water Economics
CTR-059-006a	C-28 Detection Limits	CTR-061-004	B Comment Period
CTR-059-006b	E-01c Executive Order 12866	CTR-061-005a	I-03 Applicability of Criteria
CTR-059-006c	S UMRA	CTR-061-005b	C-17 Methodologies
CTR-059-007	C-08a Arsenic Human Health	CTR-061-006	C-20 Scope Prty Toxic Poll. List
CTR-059-008	C-12a THMs Human Health	CTR-061-007	C-30 Narrative Criteria
CTR-059-009	C-01 Mercury	CTR-061-008	C-17 Methodologies
CTR-059-010	C-24d SSC Effluent Dependent Wtr	CTR-061-009	C-17 Methodologies
CTR-059-011	C-15 Salinity	CTR-061-010	C-17 Methodologies
CTR-059-012	G-04 Interim Limits	CTR-061-011	C-17 Methodologies
CTR-059-013	G-02 Compliance Schedules	CTR-061-012	C-01 Mercury
CTR-059-014	K Water Shed Approach	CTR-061-013	C-06b Chromium Aquatic Life
CTR-059-015a	E-01c Executive Order 12866	CTR-061-014	C-24a SSC Water Effect Ratios
CTR-059-015b	S UMRA	CTR-061-015	D Preamble Editorial Comments
CTR-059-016	R RFA/SBREFA	CTR-061-016	K-03 Watershed/Effluent Trading
CTR-059-017	F Endangered Species Act	CTR-061-017	J Storm Water Economics
CTR-059-018	E-01g08 Discharger Representation	CTR-061-018	E-02c Overstated Benefits
CTR-059-019	E-01b Cost Triggers	CTR-061-019	J Storm Water Economics
CTR-059-020	E-01e01 Sunnyvale/San Jose	CTR-061-020	G-06 NWQI
CTR-059-021	E-01v Discharge Over Time	CTR-062-001	I-01 Application Sec 301 vs. MEP
CTR-059-022	E-01w Cost per Facility	CTR-062-002	J-01 MS4s/CSOs/Industries Costs
CTR-059-023a	E-01g08 Discharger Representation	CTR-062-003	J Storm Water Economics
CTR-059-023b	J Storm Water Economics	CTR-062-004a	J Storm Water Economics
CTR-059-024	E-011 UMRA - Economic Comments	CTR-062-004b	R RFA/SBREFA
CTR-059-025	E-02m Few Pollutant Mask Analysis	CTR-063-001	C-03b Nickel Aquatic Life
CTR-059-026	E-01 Cost Analysis	CTR-064-001	C-02b Copper Aquatic Life
CTR-059-027	E-01i Alternative Cost Analysis	CTR-065-001	B Comment Period
CTR-060-001	G-04 Interim Limits	CTR-065-002a	A Anti-degradation
CTR-060-002	G-05 Mixing Zones&Dilution Credit	CTR-065-002b	C-17a Methodologies Human Health
CTR-060-003	L Anti-Backsliding	CTR-065-002c	C-17b Methodologies Aquatic Life
CTR-060-004	C-08a Arsenic Human Health	CTR-065-003a	C-14 Fish or Water Consumption
CTR-060-005	G-02 Compliance Schedules	CTR-065-003b	C-21 Legal Concerns
CTR-060-006	C-24 Site Specific Criteria	CTR-065-004	C-17b Methodologies Aquatic Life
CTR-060-007	C-04b Selenium Aquatic Life	CTR-065-005	C-22 Dissolved v. Ttl Recoverable
CTR-060-008	C-01 Mercury	CTR-065-006a	P Whole Effluent Toxicity
CTR-060-009	G-09 Translators	CTR-065-006b	C-20 Scope Prty Toxic Poll. List
CTR-060-010	C-28 Detection Limits	CTR-065-007	C-02b Copper Aquatic Life
CTR-060-011	I-01 Application Sec 301 vs. MEP	CTR-066-001	B Comment Period
CTR-060-012	C-26 Avrging pds&Exceedence Freq.	CTR-066-002	G-04 Interim Limits
CTR-060-013	C-02b Copper Aquatic Life	CTR-066-003	C-24a SSC Water Effect Ratios
CTR-060-014	C-11b PAHs Aquatic Life	CTR-066-004	G-02 Compliance Schedules
CTR-060-015	C-14 Fish or Water Consumption	CTR-066-005	C-22 Dissolved v. Ttl Recoverable
CTR-060-016	C-13 Risk Level	CTR-066-006	G-09 Translators
CTR-060-017	E-01g08 Discharger Representation	CTR-066-007	C-24a SSC Water Effect Ratios
CTR-060-018	E-01a02 Cost Diff. for Eff. Limit	CTR-066-008	C-01 Mercury
CTR-060-019	E-01m03 Cost of WERs	CTR-066-009	C-08a Arsenic Human Health

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CTR-066-010	G-05 Mixing Zones&Dilution Credit	CTR-074-004b	R RFA/SBREFA
CTR-066-011	C-13 Risk Level	CTR-075-001	I-01 Application Sec 301 vs. MEP
CTR-066-012	C-24e SSC Desgntd/Beneficial Uses	CTR-075-002	J-01 MS4s/CSOs/Industries Costs
CTR-066-013a	E-01g08 Discharger Representation	CTR-075-003	J Storm Water Economics
CTR-066-013b	E-01b01 RegRelief Above Threshold	CTR-075-004a	J Storm Water Economics
CTR-066-014	E-02f Use More Recent Data	CTR-075-004b	R RFA/SBREFA
CTR-066-015a	E-01n Detection Limits	CTR-076-001	I-01 Application Sec 301 vs. MEP
CTR-066-015b	C-28 Detection Limits	CTR-076-002	J-01 MS4s/CSOs/Industries Costs
CTR-066-016	E-01d Direct Dischargers	CTR-076-003	J Storm Water Economics
CTR-066-017	E-01c01 \$100M Threshold	CTR-076-004a	J Storm Water Economics
CTR-066-018	E-01u Economic Consid. Task Force	CTR-076-004b	R RFA/SBREFA
CTR-066-019	C-22 Dissolved v. Ttl Recoverable	CTR-077-001	C-23 Sediments/Dredged Materials
CTR-067-001	B Comment Period	CTR-077-002	G-05 Mixing Zones&Dilution Credit
CTR-067-002	C-22 Dissolved v. Ttl Recoverable	CTR-077-003	C-22 Dissolved v. Ttl Recoverable
CTR-067-003	C-28 Detection Limits	CTR-078-001	I-01 Application Sec 301 vs. MEP
CTR-067-004a	E-01n Detection Limits	CTR-078-002	J-01 MS4s/CSOs/Industries Costs
CTR-067-004b	K Water Shed Approach	CTR-078-003	J Storm Water Economics
CTR-067-005	G-02 Compliance Schedules	CTR-078-004a	J Storm Water Economics
CTR-067-006a	R RFA/SBREFA	CTR-078-004b	R RFA/SBREFA
CTR-067-006b	E-01d01 Cost Estmte by Commenter	CTR-079-001	I-01 Application Sec 301 vs. MEP
CTR-067-007	M Re-Open Comment Period	CTR-079-002	J-01 MS4s/CSOs/Industries Costs
CTR-068-001	B Comment Period	CTR-079-003	J Storm Water Economics
CTR-069-001	B Comment Period	CTR-079-004a	J Storm Water Economics
CTR-069-002a	J-01 MS4s/CSOs/Industries Costs	CTR-079-004b	R RFA/SBREFA
CTR-069-002b	E-01j	CTR-080-001	J Storm Water Economics
CTR-070-001	B Comment Period	CTR-080-002	J-04 End-of-Pipe Treatment v. BMP
CTR-070-002a	E-01w Cost per Facility	CTR-081-001	B Comment Period
CTR-070-002b	E-01d01 Cost Estmte by Commenter	CTR-081-002a	G-04 Interim Limits
CTR-070-003	E-01n Detection Limits	CTR-081-002b	C-24a SSC Water Effect Ratios
CTR-071-001	I-01 Application Sec 301 vs. MEP	CTR-081-002c	G-02 Compliance Schedules
CTR-071-002	J-01 MS4s/CSOs/Industries Costs	CTR-081-002d	C-22 Dissolved v. Ttl Recoverable
CTR-071-003	J Storm Water Economics	CTR-081-002e	G-09 Translators
CTR-071-004a	J Storm Water Economics	CTR-081-002f	C-01 Mercury
CTR-071-004b	R RFA/SBREFA	CTR-081-002g	C-08a Arsenic Human Health
CTR-072-001	I-01 Application Sec 301 vs. MEP	CTR-081-002h	G-05 Mixing Zones&Dilution Credit
CTR-072-002	J-01 MS4s/CSOs/Industries Costs	CTR-081-003	C-13 Risk Level
CTR-072-003	J Storm Water Economics	CTR-081-004a	C-24d SSC Effluent Dependent Wtr
CTR-072-004a	J Storm Water Economics	CTR-081-004b	C-24e SSC Desgntd/Beneficial Uses
CTR-072-004b	R RFA/SBREFA	CTR-081-005a	E-01w Cost per Facility
CTR-073-001	I-01 Application Sec 301 vs. MEP	CTR-081-005b	E-01d Direct Dischargers
CTR-073-002	J-01 MS4s/CSOs/Industries Costs	CTR-082-001	B Comment Period
CTR-073-003	J Storm Water Economics	CTR-082-002	G-02 Compliance Schedules
CTR-073-004a	J Storm Water Economics	CTR-082-003	C-22 Dissolved v. Ttl Recoverable
CTR-073-004b	R RFA/SBREFA	CTR-082-004	C-13 Risk Level
CTR-074-001	I-01 Application Sec 301 vs. MEP	CTR-082-005	C-24b SSC Recalculation Procedure
CTR-074-002	J-01 MS4s/CSOs/Industries Costs	CTR-082-006	C-24e SSC Desgntd/Beneficial Uses
CTR-074-003	J Storm Water Economics	CTR-082-007a	E-01g08 Discharger Representation
CTR-074-004a	J Storm Water Economics	CTR-082-007b	E-01b Cost Triggers

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CTR-082-008	E-02f Use More Recent Data	CTR-087-001	I-01 Application Sec 301 vs. MEP
CTR-082-009a	E-01n Detection Limits	CTR-087-002	I-02a Applying WQBELs, Stormwater
CTR-082-009b	C-28 Detection Limits	CTR-087-003	J-01 MS4s/CSOs/Industries Costs
CTR-082-010	E-01d Direct Dischargers	CTR-089-001a	C-22 Dissolved v. Ttl Recoverable
CTR-082-011	E-01c01 \$100M Threshold	CTR-089-001b	C-01 Mercury
CTR-082-012	E-01u Economic Consid. Task Force	CTR-089-001c	C-08a Arsenic Human Health
CTR-083-001	B Comment Period	CTR-089-001d	G-05 Mixing Zones&Dilution Credit
CTR-083-002	K Water Shed Approach	CTR-089-001e	K-01 TMDLs
CTR-084-001	G-11 Intake Credits	CTR-089-001f	G-02 Compliance Schedules
CTR-084-002a	E-01c01 \$100M Threshold	CTR-089-001g	G-09 Translators
CTR-084-002b	S UMRA	CTR-089-002	B Comment Period
CTR-085-001	B Comment Period	CTR-089-003	C-28 Detection Limits
CTR-085-002	B Comment Period	CTR-089-004	C-12a THMs Human Health
CTR-085-003	G-04 Interim Limits	CTR-089-005	E-01d Direct Dischargers
CTR-085-004	C-24a SSC Water Effect Ratios	CTR-089-006	C-24d SSC Effluent Dependent Wtr
CTR-085-005	G-02 Compliance Schedules	CTR-090-001	B Comment Period
CTR-085-006	C-22 Dissolved v. Ttl Recoverable	CTR-090-002a	C-17a Methodologies Human Health
CTR-085-007	G-09 Translators	CTR-090-002b	C-24a SSC Water Effect Ratios
CTR-085-008	C-24a SSC Water Effect Ratios	CTR-090-002c	C-22 Dissolved v. Ttl Recoverable
CTR-085-009	C-01 Mercury	CTR-090-002d	G-05 Mixing Zones&Dilution Credit
CTR-085-010	C-08a Arsenic Human Health	CTR-090-002e	G-02 Compliance Schedules
CTR-085-011	G-05 Mixing Zones&Dilution Credit	CTR-090-002f	G-04 Interim Limits
CTR-085-012	G-04 Interim Limits	CTR-090-003	E-01m02 Success in Reg. Relief
CTR-085-013	C-13 Risk Level	CTR-090-004	E-02o01 No Peer Review Reference
CTR-085-014	C-24d SSC Effluent Dependent Wtr	CTR-090-005	C-20 Scope Prty Toxic Poll. List
CTR-085-015	C-24e SSC Desgntd/Beneficial Uses	CTR-090-006	C-28 Detection Limits
CTR-085-016a	E-01g08 Discharger Representation	CTR-090-007	Q Nonpoint Sources
CTR-085-016b	E-01b01 RegRelief Above Threshold	CTR-090-008	E-02 Benefits Analysis
CTR-085-017	E-02f Use More Recent Data	CTR-090-009	T State Implementation Policy
CTR-085-018a	E-01n Detection Limits	CTR-090-010a	G-01 Reasonable Potential
CTR-085-018b	C-28 Detection Limits	CTR-090-010b	K-01 TMDLs
CTR-085-019	E-01d Direct Dischargers	CTR-090-011	C-28 Detection Limits
CTR-086-001a	Q Nonpoint Sources	CTR-090-012a	E-01c Executive Order 12866
CTR-086-001b	K-01 TMDLs	CTR-090-012b	S UMRA
CTR-086-002	C-01 Mercury	CTR-090-013	C-13 Risk Level
CTR-086-003	E-01h Treatment Assumptions	CTR-090-014	I-01 Application Sec 301 vs. MEP
CTR-086-004a	G-01 Reasonable Potential	CTR-090-015	Q Nonpoint Sources
CTR-086-004b	C-22 Dissolved v. Ttl Recoverable	CTR-090-016	C-20 Scope Prty Toxic Poll. List
CTR-086-004c	G-09 Translators	CTR-090-017	C-20 Scope Prty Toxic Poll. List
CTR-086-004d	C-24a SSC Water Effect Ratios	CTR-090-018	C-24 Site Specific Criteria
CTR-086-004e	C-24 Site Specific Criteria	CTR-090-019	C-17a Methodologies Human Health
CTR-086-004f	K-03 Watershed/Effluent Trading	CTR-090-020	G-07 Variances
CTR-086-004g	G-04 Interim Limits	CTR-090-021	I-10 CSO Policy
CTR-086-004h	G-05 Mixing Zones&Dilution Credit	CTR-090-022	C-12a THMs Human Health
CTR-086-004i	G-02 Compliance Schedules	CTR-090-023a	K-02 Watershed Permitting
CTR-086-005	T State Implementation Policy	CTR-090-023b	Q Nonpoint Sources
CTR-086-006	E-01m Regulatory Relief	CTR-090-024	G-02 Compliance Schedules
CTR-086-007	T State Implementation Policy	CTR-091-001a	C-01 Mercury

CTR Responses to Comments - Sorted by Comment ID

<b>Comment ID</b>	<b>Subject Matter Code</b>		
CTR-091-001b	C-01 Mercury	CTR-096-003b	J-05 BMPs Inability to Comply
CTR-091-002a	E-01 Cost Analysis	CTR-096-004a	G-10 Pretreatment
CTR-091-002b	E-02 Benefits Analysis	CTR-096-004b	R RFA/SBREFA
CTR-092-001	T State Implementation Policy	CTR-096-005	B Comment Period
CTR-092-002	C-22 Dissolved v. Ttl Recoverable	CTR-096-006	C-24d SSC Effluent Dependent Wtr
CTR-092-003	G-09 Translators	CTR-096-007	C-24e SSC Desgntd/Beneficial Uses
CTR-092-004	C-24a SSC Water Effect Ratios	CTR-096-008	C-13 Risk Level
CTR-092-005	K-01 TMDLs	CTR-096-009	E-01u Economic Consid. Task Force
CTR-092-006	G-04 Interim Limits	CTR-097-001a	C-17a Methodologies Human Health
CTR-092-007	G-05 Mixing Zones&Dilution Credit	CTR-097-001b	C-14 Fish or Water Consumption
CTR-092-008	G-07 Variances	CTR-097-002	C-29 Bioaccumulation
CTR-092-009	G-02 Compliance Schedules	CTR-097-003	C-09a Dioxin Human Health
CTR-092-010	C-24 Site Specific Criteria	CTR-098-001	C-14 Fish or Water Consumption
CTR-092-011	I-01 Application Sec 301 vs. MEP	CTR-099-001a	C-17a Methodologies Human Health
CTR-092-012a	C-03b Nickel Aquatic Life	CTR-099-001b	C-17b Methodologies Aquatic Life
CTR-092-012b	C-07b Cyanide Aquatic Life	CTR-099-002	C-14 Fish or Water Consumption
CTR-092-013a	C-24a SSC Water Effect Ratios	CTR-099-003	C-29 Bioaccumulation
CTR-092-013b	C-02b Copper Aquatic Life	CTR-099-004	C-21 Legal Concerns
CTR-092-014	E-01g Sample Facilities	CTR-100-001	C-20 Scope Prty Toxic Poll. List
CTR-092-015	C-13 Risk Level	CTR-101-001a	C-14 Fish or Water Consumption
CTR-092-016a	E-01c Executive Order 12866	CTR-101-001b	C-20 Scope Prty Toxic Poll. List
CTR-092-016b	R RFA/SBREFA	CTR-102-001a	C-17a Methodologies Human Health
CTR-092-016c	S UMRA	CTR-102-001b	C-17b Methodologies Aquatic Life
CTR-092-017	E-01a Baselines	CTR-102-002	C-14 Fish or Water Consumption
CTR-092-018	E-01e01 Sunnyvale/San Jose	CTR-103-001	C-04b Selenium Aquatic Life
CTR-092-019	E-01e03 No Savings from Poll. Red	CTR-104-001	C-14 Fish or Water Consumption
CTR-092-020	E-01e Indirect Dischargers	CTR-104-002a	C-01 Mercury
CTR-092-021	E-01i Alternative Cost Analysis	CTR-104-002b	C-14 Fish or Water Consumption
CTR-092-022a	E-01c Executive Order 12866	CTR-104-003	G-02 Compliance Schedules
CTR-092-022b	E-01b01 RegRelief Above Threshold	CTR-104-004a	C-09a Dioxin Human Health
CTR-092-022c	E-01y Cost of Efforts to Date	CTR-104-004b	C-17a Methodologies Human Health
CTR-092-023a	E-02e Include Omitted Benefits	CTR-105-001a	C-20 Scope Prty Toxic Poll. List
CTR-092-023b	E-02l Marginal Impacts/Benefits	CTR-105-001b	C-14 Fish or Water Consumption
CTR-092-023c	E-02q Benefits to Public at Large	CTR-105-002a	C-17a Methodologies Human Health
CTR-093-001	E-01g05 Effluent Data	CTR-105-002b	C-21 Legal Concerns
CTR-094-001	B Comment Period	CTR-106-001	C-14 Fish or Water Consumption
CTR-095-001a	C-20 Scope Prty Toxic Poll. List	CTR-106-002a	C-01 Mercury
CTR-095-001b	C-17a Methodologies Human Health	CTR-106-002b	C-14 Fish or Water Consumption
CTR-095-001c	C-21 Legal Concerns	CTR-106-003	G-02 Compliance Schedules
CTR-095-001d	C-14 Fish or Water Consumption	CTR-106-004a	C-09a Dioxin Human Health
CTR-095-002a	C-01 Mercury	CTR-106-004b	C-17a Methodologies Human Health
CTR-095-002b	C-01 Mercury	CTR-107-001	E-01 Cost Analysis
CTR-095-003	C-09a Dioxin Human Health	CTR-107-002a	E-01 Cost Analysis
CTR-095-004	G-02 Compliance Schedules	CTR-107-002b	G-02 Compliance Schedules
CTR-096-001a	I-03 Applicability of Criteria	CTR-107-002c	E-01n Detection Limits
CTR-096-001b	C-17 Methodologies	CTR-108-001	E-01g01 Low or Zero Dilution
CTR-096-002	I-07 Attainability of Criteria	CTR-109-001a	C-14 Fish or Water Consumption
CTR-096-003a	E-01c01 \$100M Threshold	CTR-109-001b	C-20 Scope Prty Toxic Poll. List

CTR Responses to Comments - Sorted by Comment ID

<b>Comment ID</b>	<b>Subject Matter Code</b>		
CTR-109-002a	C-01 Mercury	CTRH-001-003c	C-01 Mercury
CTR-109-002b	C-14 Fish or Water Consumption	CTRH-001-004	I-01 Application Sec 301 vs. MEP
CTR-109-003	C-09a Dioxin Human Health	CTRH-001-005a	J-02 RFA - Small Entity Cost
CTR-109-004	G-02 Compliance Schedules	CTRH-001-005b	R RFA/SBREFA
CTR-110-001	C-17a Methodologies Human Health	CTRH-001-006	I-01 Application Sec 301 vs. MEP
CTR-110-002	C-09a Dioxin Human Health	CTRH-001-007	I-03 Applicability of Criteria
CTR-110-003	G-02 Compliance Schedules	CTRH-001-008a	R RFA/SBREFA
CTR-111-001	E-01d01 Cost Estmte by Commenter	CTRH-001-008b	J-02 RFA - Small Entity Cost
CTRE-001-001a	B Comment Period	CTRH-001-009a	J-06 NEPA
CTRE-001-001b	V Collaborative Approach	CTRH-001-009b	F Endangered Species Act
CTRE-001-002	B Comment Period	CTRH-001-010	C-21 Legal Concerns
CTRE-002-001	B Comment Period	CTRH-001-011	G-02 Compliance Schedules
CTRE-002-002	I-01 Application Sec 301 vs. MEP	CTRH-001-012	C-09a Dioxin Human Health
CTRE-002-003	J Storm Water Economics	CTRH-001-013	C-01 Mercury
CTRE-002-004	I-03 Applicability of Criteria	CTRH-001-014	C-02b Copper Aquatic Life
CTRE-002-005	B Comment Period	CTRH-001-015	A Anti-degradation
CTRE-003-001a	B Comment Period	CTRH-001-016	C-20 Scope Prty Toxic Poll. List
CTRE-003-001b	B Comment Period	CTRH-001-017	C-21 Legal Concerns
CTRE-003-001c	R RFA/SBREFA	CTRH-001-018a	C-01 Mercury
CTRE-004-001a	B Comment Period	CTRH-001-018b	C-01 Mercury
CTRE-004-001b	G-08 State Policy	CTRH-001-019a	B Comment Period
CTRE-005-001	B Comment Period	CTRH-001-019b	V Collaborative Approach
CTRE-006-001	B Comment Period	CTRH-001-020	C-28 Detection Limits
CTRE-007-001	B Comment Period	CTRH-001-021	C-23 Sediments/Dredged Materials
CTRE-008-001	B Comment Period	CTRH-001-021a	B Comment Period
CTRE-009-001	B Comment Period	CTRH-001-021b	B Comment Period
CTRE-010-001	B Comment Period	CTRH-001-022a	G-07 Variances
CTRE-011-001	B Comment Period	CTRH-001-022b	G-05 Mixing Zones&Dilution Credit
CTRE-012-001	B Comment Period	CTRH-001-023	E-01s 2ndary, Indirect Cost Impact
CTRE-013-001	B Comment Period	CTRH-001-024a	G-02 Compliance Schedules
CTRE-014-001	B Comment Period	CTRH-001-024b	G-05 Mixing Zones&Dilution Credit
CTRE-015-001	B Comment Period	CTRH-001-024c	C-22 Dissolved v. Ttl Recoverable
CTRE-016-001	B Comment Period	CTRH-001-024d	C-24a SSC Water Effect Ratios
CTRE-017-001	B Comment Period	CTRH-001-024e	C-17a Methodologies Human Health
CTRE-018-001	B Comment Period	CTRH-001-025	V Collaborative Approach
CTRE-019-001	B Comment Period	CTRH-001-026	C-13 Risk Level
CTRE-020-001	B Comment Period	CTRH-001-027	E-01d Direct Dischargers
CTRE-021-001	B Comment Period	CTRH-001-028	C-28 Detection Limits
CTRE-022-001	B Comment Period	CTRH-001-029	J Storm Water Economics
CTRE-023-001a	B Comment Period	CTRH-001-030	V Collaborative Approach
CTRE-023-001b	V Collaborative Approach	CTRH-001-031	I-01 Application Sec 301 vs. MEP
CTRE-024-001	B Comment Period	CTRH-001-032a	C-24a SSC Water Effect Ratios
CTRE-025-001	B Comment Period	CTRH-001-032b	C-22 Dissolved v. Ttl Recoverable
CTRH-001-001a	I-01 Application Sec 301 vs. MEP	CTRH-001-032c	G-05 Mixing Zones&Dilution Credit
CTRH-001-001b	J Storm Water Economics	CTRH-001-033	J Storm Water Economics
CTRH-001-002	B Comment Period	CTRH-001-034a	I-08 SWRCB Flexibility&Authority
CTRH-001-003a	C-22 Dissolved v. Ttl Recoverable		
CTRH-001-003b	C-24a SSC Water Effect Ratios		

CTR Responses to Comments - Sorted by Comment ID

Comment ID	Subject Matter Code
CTRH-001-034b	I-05 Compliance Schedules
CTRH-001-034c	G-03 Design/Minimum Flows
CTRH-001-035	B Comment Period
CTRH-001-036	B Comment Period
CTRH-001-037a	E-01c02 Bnfts do not Balance Cost
CTRH-001-037b	E-01q03 Unit Cost Assumption
CTRH-001-037c	E-01h02 Unit Cost Assumptions
CTRH-001-038	C-28 Detection Limits
CTRH-001-039a	C-24a SSC Water Effect Ratios
CTRH-001-039b	G-04 Interim Limits
CTRH-001-039c	G-02 Compliance Schedules
CTRH-001-040	I-01 Application Sec 301 vs. MEP
CTRH-001-042	J-04 End-of-Pipe Treatment v. BMP
CTRH-001-043	B Comment Period
CTRH-001-044	E-01d01 Cost Estmte by Commenter
CTRH-001-045a	B Comment Period
CTRH-001-045b	G-09 Translators
CTRH-001-046	C-13 Risk Level
CTRH-001-047	C-24 Site Specific Criteria
CTRH-001-048	C-22 Dissolved v. Ttl Recoverable
CTRH-001-049	G-09 Translators
CTRH-001-050a	C-01 Mercury
CTRH-001-050b	C-14 Fish or Water Consumption
CTRH-001-051	C-09a Dioxin Human Health
CTRH-001-052	G-02 Compliance Schedules
CTRH-001-053	C-14 Fish or Water Consumption
CTRH-001-054	J Storm Water Economics
CTRH-001-055	T State Implementation Policy
CTRH-001-056	V Collaborative Approach
CTRH-001-057a	K-03 Watershed/Effluent Trading
CTRH-001-057b	C-24a SSC Water Effect Ratios
CTRH-001-057c	G-04 Interim Limits
CTRH-001-057d	G-07 Variances
CTRH-001-057e	G-09 Translators
CTRH-001-057f	C-22 Dissolved v. Ttl Recoverable
CTRH-001-057g	G-05 Mixing Zones&Dilution Credit
CTRH-001-058	E-01g08 Discharger Representation
CTRH-001-059	C-23 Sediments/Dredged Materials
CTRH-001-060a	B Comment Period
CTRH-001-060b	J-04 End-of-Pipe Treatment v. BMP
CTRH-001-061	I-03 Applicability of Criteria
CTRH-001-062	C-01 Mercury
CTRH-001-063	C-01 Mercury
CTRH-002-001	I-01 Application Sec 301 vs. MEP
CTRH-002-002	J-04 End-of-Pipe Treatment v. BMP
CTRH-002-003	C-28 Detection Limits
CTRH-002-004	J-02 RFA - Small Entity Cost
CTRH-002-005	J Storm Water Economics
CTRH-002-006a	I Stormwater/Wet Weather Flows
CTRH-002-006b	J Storm Water Economics
CTRH-002-007	B Comment Period
CTRH-002-008	I-01 Application Sec 301 vs. MEP
CTRH-002-009	J Storm Water Economics
CTRH-002-010	B Comment Period
CTRH-002-011a	G-02 Compliance Schedules
CTRH-002-011b	G-04 Interim Limits
CTRH-002-011c	C-22 Dissolved v. Ttl Recoverable
CTRH-002-011d	K-01 TMDLs
CTRH-002-012	C-24d SSC Effluent Dependent Wtr
CTRH-002-013	C-13 Risk Level
CTRH-002-014	G-02 Compliance Schedules
CTRH-002-015	K Water Shed Approach
CTRH-002-016a	E-01c02 Bnfts do not Balance Cost
CTRH-002-016b	E-01h Treatment Assumptions
CTRH-002-017	J Storm Water Economics
CTRH-002-018	E-01y Cost of Efforts to Date
CTRH-002-019	E-01n Detection Limits
CTRH-002-020	C-24d SSC Effluent Dependent Wtr
CTRH-002-021a	B Comment Period
CTRH-002-021b	V Collaborative Approach
CTRH-002-022	E-01n Detection Limits
CTRH-002-023	C-13 Risk Level
CTRH-002-024	I-03 Applicability of Criteria
CTRH-002-025	I-04 Site-Specific Criteria
CTRH-002-026	I-05 Compliance Schedules
CTRH-002-027	B Comment Period

Subject Matter Code: A Anti-degradation

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Comment ID: CTR-002-010a  
Comment Author: Comm. for a Better Environment  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: A Anti-degradation  
References:  
Attachments? Y  
CROSS REFERENCES G-02

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Comment: The proposed implementation plan allowing compliance schedules for effluent limits to attain the criteria to be placed in permits may not pass the antidegradation test either. CBE believes EPA recognizes that permit schedules which allow continued impairment of fishing and aquatic life uses are improper (See e.g., section 1311(b)(1)(C), section 1314(l)(1)(D), section 1342(o)(1) and (3) and section 1313(d)(4)(A) of the Clean Water Act). In the alternative case, however, a schedule allowing discharge of these persistent pollutants to waters attaining the criteria will result in the accumulation of pollutants and will degrade water quality. This degradation is unnecessary as the state has accommodated important economic and social development for years while placing compliance schedules in administrative enforcement orders, and is thus impermissible under 40 CFR section 131.12(a)(2). Indeed, existing California dischargers have been made aware of the need to meet similar or more restrictive criteria since at least 1991, and further extension of time for more pollution should be done through schedules in enforcement orders. Any desire to avoid the administrative effort of continuing to prepare these enforcement orders is easily outweighed by the public interests in clean water and public participation afforded.

In sum, EPA's weaker criteria shown in Table 2 do not protect designated uses of water based on sound scientific rationale, and even if this were true for some toxics in some areas of the Bay, the weaker criteria are not necessary to allow important economic or social development. Therefore, revision of water quality standards by adopting these criteria would not meet the tests set forth by 40 CFR section 131.11(a)(1) and section 131.12 and the Clean Water Act provisions these regulations implement. Further, incorporating schedules allowing polluters to harm fishing and aquatic life in water quality standards and effluent limits is improper, and there is no legitimate need for schedules allowing degradation of water quality and restricting public participation to be in permits instead of putting them in administrative enforcement orders as is done today. Thus EPA's proposal may, by failing to provide equal protection for people of color who fish for food and unfairly restricting public participation, also conflict with the Executive Order on environmental justice and civil rights law.

Response to: CTR-002-010a

See legal response to CTR-002-009. EPA disagrees that compliance schedules will prevent antidegradation requirements from being met. First, the antidegradation policy at 40 CFR 131.12 requires, as an absolute minimum, that existing uses (those uses established on or after November 28, 1975) must be fully protected in all waters. Secondly, the antidegradation policy allows some degradation in high quality waters (i.e., those waters whose quality exceeds levels necessary to support fishable/swimmable uses) provided that any such degradation would not reduce water quality to such levels below that needed to maintain the fishable/swimmable uses. Before allowing any degradation in

high quality waters, the State must ensure that all statutory and regulatory requirements for point sources and all cost-effective and reasonable best management practices are achieved. Furthermore, in allowing degradation to high quality waters the State must provide for public participation and intergovernmental coordination in demonstrating that the lowering of water quality is necessary for important economic and social advancements in the area that the discharge is located. Thirdly, no degradation (other than short term or temporary lowering of water quality) is allowed in waters classified as Outstanding National Resource Waters (ONRWs). ONRWs include the highest quality waters in the U. S. Additionally, the ONRW classification offers special protection for waters of "exceptional ecological significance," i.e., those waters that are important, unique, or of ecological importance, but whose water quality, as determined by traditional parameters such as dissolved oxygen or pH, may not be particularly high.

Thus, although EPA notes that there is some degradation allowed to certain waters under the antidegradation policy, EPA believes that a compliance schedule can be complementary to the antidegradation provisions. The Agency has supported reasonable compliance schedules based on new or reviewed water quality standards adopted after July 1, 1977. A compliance schedule will accommodate the practical real world problems in meeting a new effluent limit where it is adequately justified. The whole basis for a compliance schedule is when a facility needs to invest in capitol improvements to install the additional treatment technologies necessary to meet more stringent effluent limitations. Furthermore, EPA is not aware of any specific instances where the State has either allowed any unnecessary degradation or allowed degradation to occur to a degree that is inconsistent with 40 CFR 131.12. Moreover, the commenter did not provide any analysis to demonstrate that antidegradation provisions are not being met or not being appropriately implemented in the State of California. Furthermore, although the antidegradation provisions are essential in maintaining and protecting water quality, those provisions are outside of the scope of today's rule.

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Comment ID: CTR-026-001a  
Comment Author: Cal. Department of Fish & Game  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: A Anti-degradation  
References:  
Attachments? N  
CROSS REFERENCES C-24e

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#### Comment: 1 . DESIGNATED USES AND ANTIDegradation POLICY

The DFG is concerned with the issues of "designated uses" and an "antidegradation policy" as they apply to the formation of water quality standards. It is our understanding that water quality standards are comprised of, or defined by, three components: 1) designated uses, 2) numeric water quality criteria, and 3) an antidegradation policy. The CTR is not clear on which designated uses are being identified and when they were established. The rule needs to identify what designated uses are being assigned and when these uses were or should be attained. At issue is which uses should be maintained and protected, and what the baseline should be for designating the various beneficial or designated uses for inland freshwater and bay and estuarine waters of the state. We believe that any baseline for applying the antidegradation policy should establish what the quality of the water would have been historically in the absence of human impacts. Under the Porter Cologne Act, the State's primary water quality statute, the

discharge of waste into state waters is not a right but a privilege. Since the discharge of waste is not considered a beneficial use, it should not be permitted in public waters unless it is determined that all beneficial uses, especially publicly entrusted fish and wildlife resources, are fully protected. This is especially true for wetlands throughout the State. The proposed rule is not clear as to when the baseline starts (i.e., historical vs. statutory). The DFG believes that, to the extent practicable, designated uses should be reflective of what has been realized in the past. If the CTR is utilizing a statutory date for which baseline designated uses were identified, then the CTR needs to include a justification for such a date.

With respect to antidegradation, it is not clear whether or not the proposed rule is subject to these requirements. It is our understanding that when a proposed action would allow less stringent criteria than previously proposed or adopted, and if that action would result in more loading of a particular constituent into waters of the State, then an appropriate antidegradation analysis shall be required. It is not clear what process EPA has undertaken to adequately address antidegradation issues related to the proposed new criteria. It may be that the applicability of the antidegradation policies are more pertinent with respect to site-specific criteria that may be included in the final rule. We recommend that the CTR adequately address this issue and apply the antidegradation policy where necessary.

Response to: CTR-026-001a

The scope of today's rule is to establish numeric criteria to bring California into compliance with CWA Section 303(c)(2)(B). Section 303(c)(2)(B) requires adoption of numeric criteria for priority toxic pollutants contained in CWA Section 307(a) for which EPA has issued Section 304(a) criteria guidance and where those pollutants could reasonably be expected to interfere with the designated uses of state waters. In today's action, EPA is relying on the use designations developed by the State of California, the State's existing antidegradation policy, and the criteria promulgated in this action to ensure that adequate water quality standards are in place to protect the waterbodies identified in the State's Regional Basin Plans. The adoption of criteria sufficient to protect designated uses is not an action which in and of itself results in any change in water quality. Thus, antidegradation implementation and baselines for applying the antidegradation policy are outside of the scope of today's rule.

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Comment ID: CTR-029-001

Comment Author: Center for Marine Conservation

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: A Anti-degradation

References:

Attachments? N

**CROSS REFERENCES**

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Comment: The Center for Marine Conservation (CMC) is a nationwide, nonprofit advocacy group dedicated to the conservation and enhancement of coastal and ocean life and resources. CMC submits these comments on behalf of its 16,000 members in California and over 120,000 members nationwide.

CMC applauds EPA's efforts to bring California into compliance with the Clean Water Act section 303(c)(2)(B). Implementing numeric criteria that will protect the beneficial uses of California's waters is

of great importance to the health of coastal and marine ecosystems, and so to CMC and its members. The reliance in many areas of the state on narrative criteria threatens the health of most of the state's waters, thereby impacting both human health and the health of the state's economy that relies on clean water.

While CMC strongly supports the swift adoption of an Enclosed Bays and Estuaries Plan and an Inland Surface Waters Plan that contain numeric criteria for toxic pollutants, CMC also is concerned that many of the specific criteria contained in the proposed rule are weaker than those contained in published guidance. CMC also believes that the proposed rule can better protect certain subpopulations from harm caused by consumption of contaminated fish and shellfish. Finally, CMC is concerned that the economic analysis of the proposed rule over-emphasizes costs and under-reports the many benefits of improving water quality throughout the state. These three points are reviewed below.

#### Use of the Majority of the State's Waters Is Threatened or Impaired by Pollution

Increasing pollution seriously jeopardizes the health of the state's waters. The most recently available data shows that pollution threatens or impairs the use of 98% of California's tidal wetlands, 93% of its bays and harbors, 90% of its estuaries, 88% of its freshwater wetlands, 79% of its lakes and reservoirs, and 74% of its rivers and streams.(\*1)

Where specific toxics data are available, they demonstrate that these contaminants are particularly significant threat to the health of the state's waters. For example, use of 98% of the state's tidal wetlands, 85% of its estuaries, 72% of its freshwater wetlands, 72% of its groundwater, 68% of its bays and harbors, and 52% of its rivers and streams are threatened or impaired by toxic pollutants.(\*2)

Significantly, these figures represent only water bodies whose water quality has been measured. The health of many waters in the state is unknown. For example, the water quality of only 9% of the state's rivers and streams has been assessed.(\*3) Moreover, even when a water body is reported as being "monitored," it may only be tracked for one or a handful of contaminants, leaving its overall health unclear. In other words, the number of water bodies known to be contaminated is only the minimum; actual pollution problems may be far greater.

In light of these statistics, it is imperative that the state move forward swiftly in implementing strong numeric controls on the discharge of toxics into our waterways. It is unacceptable California is the only state in the nation in substantial noncompliance with Clean Water Act section 303(c)(2)(B), and CMC welcomes EPA's extensive efforts in helping California work towards compliance.

These statistics, however, also call for the strongest criteria supportable by science. The significant threats demonstrated by the statistics show that the proposed rule's move backwards from published criteria documents should be viewed with an extremely critical eye.

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(\*1) State Water Resources Control Board, California 305(b) Report on Water Quality, pp. 43-47 (Aug. 1996).

(\*2) Id. at p. 80.

(\*3) Id. at p. 2.

EPA acknowledges that the criteria in the proposed CTR appeared in some instances to be inconsistent with EPA's published criteria recommendations. EPA explained in the preamble to the proposed CTR that EPA's policy has always been to utilize the latest toxicity information in IRIS when evaluating criteria. In this regard, EPA disagrees with the commentor that the criteria in the CTR are inconsistent with published EPA guidance. Since the proposed CTR, EPA has updated its National 304(a) published criteria to include the latest IRIS toxicity values (see 63 FR 68353 published on 12/10/98 and 64 FR 19781 published on 4/22/99). The values in the final CTR are now consistent with EPA's published criteria recommendations.

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Comment Author: Center for Marine Conservation

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: A Anti-degradation

References:

Attachments? N

CROSS REFERENCES C-17a

C-17b

C-22

C-27

C-29

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Comment: The Center for Marine Conservation (CMC) is a nationwide, nonprofit advocacy group dedicated to the conservation and enhancement of coastal and ocean life and resources. CMC submits these comments on behalf of its 16,000 members in California and over 120,000 members nationwide.

CMC applauds EPA's efforts to bring California into compliance with the Clean Water Act 303(c)(2)(B). Implementing numeric criteria that will protect the beneficial uses of California's waters is of great importance to the health of coastal and marine ecosystems, and so to CMC and its members. The reliance in many areas of the state on narrative criteria threatens the health of most of the state's waters, thereby impacting both human health and the health of the state's economy that relies on clean water.

While CMC strongly supports the swift adoption of an Enclosed Bays and Estuaries Plan and an Inland Surface Waters Plan that contain numeric criteria for toxic pollutants, CMC also is concerned that many of the specific criteria contained in the proposed rule are weaker than those contained in published guidance. CMC also believes that the proposed rule can better protect certain subpopulations from harm caused by consumption of contaminated fish and shellfish. Finally, CMC is concerned that the economic analysis of the proposed rule over-emphasizes costs and under-reports the many benefits of improving water quality throughout the state. These three points are reviewed below.

**In Light of Significant Threats to Water Quality, the Proposed Rule Should Contain the Most Stringent Criteria That Are Scientifically Defensible**

Many of the criteria in the proposed rule are weaker than criteria in current published guidance. The proposed rule summarily states that the difference between the proposed, weaker criteria and the published guidance documents is "insignificant"(\*4); however, in light of the current contamination

problems in California's waters today, any move backwards, particularly when spread out over the state, must be viewed as significant.

Any weakening of the criteria should be subject to close scrutiny and the most rigorous analysis, which the proposed rule itself does not do. Among other things, the criteria in the proposed rule may be under protective because additive and synergistic effects were not considered; and because the effects on wildlife, which can be particularly significant for bioaccumulative chemicals, were ignored.(\*5) In addition, the proposed rule contains dissolved rather than total recoverable metals criteria, despite the fact that EPA acknowledges that total recoverable metals criteria are "scientifically defensible" and that they are more protective than dissolved metals criteria because they consider "sediment, food-chain effects and other fate-related issues," rather than simply water column impacts.(\*6)

Clean Water Act section 303(c)(2)(B) mandates the development of numeric criteria that will "support such designated uses [that are adopted by the State]." The statistics available on the health of the state's waters indicates that their use already is significantly threatened or impaired by toxics. The strongest criteria supportable by science are necessary to reverse this trend and begin to restore the state's waters.

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(\*4) 62 Fed. Reg. 42159, 42168 (Aug. 5, 1997).

(\*5) Id. at 42168.

(\*6) Id. at 42172.

Response to: CTR-029-002c

See response to CTR-029-001.

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Comment ID: CTR-039-002  
Comment Author: San Francisco BayKeeper  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: A Anti-degradation  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: EPA should defer to the State's prior technical decisions to establish metals criteria based on total recoverable metals. EPA should defer to the State's prior determinations on dioxin and mercury as well as fish consumption rates. In establishing water quality standards under the federal Clean Water Act, neither EPA nor the States can factor in the anticipated economic burden which may result from implementation of the standards. The standards must be based solely on science and the needs of the beneficial uses established for the particular waters. The only reason that the State's promulgation of many of the requisite criteria in 1991 was overturned in state court was because of a flawed economic analysis pursuant to provisions unique to state law. EPA had approved many of those final criteria as technically sound and within the State's delegated discretion. EPA should not backslide on that prior

determination at this late date but instead should be attempting to close the gap in criteria by deferring to its previous approval.

Response to: CTR-039-002

EPA believes that in promulgating the criteria in today's rule, the Agency is not backsliding on criteria that were previously approved in California. Rather, in taking this action, the Agency intends to establish numeric criteria for priority toxic pollutants as required by CWA Section 303(c)(2)(B) until such time that California can adopt such criteria sufficient to protect the designated uses of the waters that are subject to this rule. The criteria included in today's rule are largely the same criteria that were adopted by the State. However, there are some differences. For example, because the criteria included in today's rule have been updated by EPA to reflect the Agency's latest scientific recommendation, the criteria values may be different from those adopted by State in the Inland Surface Waters Plan and Enclosed Bays and Estuaries Plan. EPA notes that the State, in the future, is not precluded from adopting criteria for total recoverable metals (instead of dissolved), adopting human health criteria that are based on higher fish consumption rates, or from adopting criteria for dioxin that are based on toxicity equivalents since these provisions are viewed as risk management decisions. The basis for EPA's use of metals criteria based on dissolved rather than total recoverable is discussed in the responses CTR-026-004, CTR-039-003a, and CTR-065-005, a record document entitled "Discussion of Use of Dissolved Metals in the CTR," and elsewhere in the record for the rule.

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Comment ID: CTR-039-003b  
Comment Author: San Francisco BayKeeper  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: A Anti-degradation  
References:  
Attachments? N  
CROSS REFERENCES C-22

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Comment: I . APPLYING DISSOLVED METALS CRITERIA AS PROPOSED VIOLATES THE ANTIDEGRADATION POLICY FOR SAN FRANCISCO BAY AND OTHER WATERS OF THE STATE

The practical effect of EPA's decision to rely on dissolved metals criteria is to allow higher levels of total recoverable metals to be discharged from point sources into San Francisco Bay as well as other waters of the State. Since 1991, many permits in the Bay area and else where have been issued applying the State Water Resources Control Board's technically-based and EPA approved numeric criteria for numerous toxic pollutants. For at least three years, permits throughout the State were required to be issued using the duly-promulgated criteria established by the State Water Resources Control Board ("SWRCB"). After the Sacramento court vacated the criteria on economic grounds, numerous permitting decisions were made by local regional boards and their staffs applying the previously applicable standards using their best professional judgement ("BPJ") in order to assure the protection of beneficial uses. Each of the permitting decisions based directly or deferentially on the SWRCB's criteria would be more stringent than permits for the same parameters authorized by EPA's proposed rule where a discharger opts to follow the Water Effects Ratio protocol for translating the criteria into a permit limit. BayKeeper would

not anticipate that many, if any, dischargers will opt for the default WER of 1.0. Thus, for many regulated dischargers, EPA's proposal will lead to major increases in the total metals they are allowed to discharge into the Bay and other waters of the State. This massive increase in the total pollution proposed to be allowed to be discharged into the Bay and other State waters is completely inconsistent with the State's and EPA's antidegradation policies mandating that existing water quality be maintained and protected. As the State's policy sets forth:

Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.

SWRCB Resolution No. 68-16. Under the federal version of the policy:

[w]here the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development.

40 C.F.R. 131.12(a)(2). The antidegradation policies apply both to permit decisions as well as decisions establishing water quality standards. See, e.g., *In The Matter of the Petition of Remmon C. Fay*, SWRCB Order No. WQ 86-17 (Nov. 20, 1986). In the case of EPA's proposed rule, throughout California the rule, if adopted, will allow more pollution to be discharged than is currently allowed by permits validly issued to numerous dischargers throughout the State without any consideration of the policies, including the intergovernmental coordination and public participation requirements, required by the antidegradation policies.

Of course, in addition to that procedural problem, BayKeeper is opposed to the proposed reliance on dissolved numbers, especially in the Bay area, because it will in fact allow more pollution to be discharged into the State's waters than is currently allowed today and likely will prove detrimental to beneficial uses. See *Comments of Communities For A Better Environment*. BayKeeper also is very concerned about the burdens and uncertainty placed on the public by the need for translators in order to apply the dissolved criteria in permit limits that must be based on total recoverable numbers. As noted above, BayKeeper does not anticipate that many dischargers will opt for EPA's proposed WER default of 1.0. BayKeeper views this proposal as an invitation for dischargers to prepare site-specific limitations based on their own studies which will frustrate the public's ability to participate effectively in the formulation of effluent limits. Further, the proposal will present a moving target for the public to understand and will burden the resources of regional board staff to a degree that may undermine the quality of those site by site determinations.

Response to: CTR-039-003b

See response to CTR-026-004. First, EPA disagrees with the contention that the CTR will result in massive increases in the total pollution allowed in the San Francisco Bay. See response to CTR-002-003 for a detailed response to this same comment.

EPA disagrees that the dissolved criteria will violate California's or EPA's antidegradation provisions contained in 40 CFR 131.12. The use of dissolved criteria in establishing aquatic life criteria for metals

is based on EPA's determination (with widespread support and input from experts in the scientific community) that dissolved metals more accurately approximates the portion of the metals in water that is biologically available to cause toxicity to aquatic organisms.

The antidegradation policy at 40 CFR 131.12 and the State's antidegradation policy ensures full protection of existing uses (those uses established on or after November 28, 1975) and provides a means to assess the impacts of discharges to high quality waters. There is some degradation allowed to high quality waters (see response to CTR-002-010a), provided certain procedures are implemented and certain provisions are met. However, EPA does not support the notion that dissolved metals will violate the antidegradation policy. EPA contends that the use of dissolved metals will provide a greater degree of accuracy in protecting aquatic ecosystems.

Furthermore, the adoption of criteria sufficient to protect designated uses is not an action which in and of itself results in any change in water quality. The implementation of such criteria may raise antidegradation issues in specific instances in the future, but this rule does not.

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Comment ID: CTR-065-002a  
Comment Author: Environmental Health Coalition  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: A Anti-degradation  
References:  
Attachments? N  
CROSS REFERENCES C-17a  
C-17b

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**Comment: PROPOSED RULE ALLOWS SIGNIFICANT AND UNACCEPTABLE INCREASES IN TOXIC POLLUTANT CONCENTRATIONS IN BAYS AND ESTUARIES**

Our initial review indicates that the proposed criteria for a number of toxic constituents are unacceptably high and will allow more pollution of bays and estuaries by several orders of magnitude. If adopted as proposed, the CTR will allow a 900% increase of dioxin, 140% increase of PCBs, 325% increase of mercury, 2760% increase of zinc, 23,000% increase of lead, and a stunning 430 million % increase for total PAH, some of the most problematic pollutants in San Diego Bay. The CTR only improves (i.e. strengthens) criteria for only 3 of 64 pollutants. This does not square with new studies that show reasons for concern about the synergistic and long-term effects of exposures to these toxic pollutants. In sum, the CTR proposes weaker criteria for 58% of the pollutants and no change for 37% of the criteria. This kind of action will not bring us closer to our goal of cleaner water containing healthier organisms in the future.

Response to: CTR-065-002a

See comment response CTR-065-002b.

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Comment ID: CTRH-001-015  
Comment Author: Greg Karras

Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Comm. for Better Environ.  
Document Date: 09/17/97  
Subject Matter Code: A Anti-degradation  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Now, I won't go through each of the pollutants one by one here. I want to give some other speakers some time.

But to summarize on the criteria point, EPA's proposal criteria ranges from slightly less to more than a thousand percent weaker than the state's previous proposal for 37 of the 64 pollutants of concern identified by the San Francisco Estuary Project -- that's according to our preliminary analysis -- or 58 percent of these pollutants, as compared with previous EPA-approved state standards.

Time and again, when environmental standards required action to prevent pollution, and this was done right, this resulted in long-term economic benefits rather than costs.

And I have an antidegradation question here: Will EPA allow these pollutants to degrade water quality when your own economic analysis shows no evidence of widespread economic concern?

And our data show that in fact doing it right and preventing pollution could save jobs and provide long-term economic benefits, as well as environmental health benefits.

Response to: CTRH-001-015

See response to CTR-002-010a, CTR-039-003b, and CTR-002-003.

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Subject Matter Code: B Comment Period

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Comment ID: CTR-001-001

Comment Author: Law Offices of Alan C. Waltner

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org: Alameda Cnty Clean Wtr Pgm

Document Date: 09/22/97

Subject Matter Code: B Comment Period

References:

Attachments?

**CROSS REFERENCES**

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Comment: (\*1) As you know, several storm water systems have requested additional time to comment on the proposed rule, a request in which the ACCWP has joined. Additional time is particularly important given the interdependence between the CTR and the recently proposed "Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California," ("State Implementation Policy" or "SIP") released by the SWRCB on September 12, 1997, just two weeks before the comment deadline on the CTR. The way in which the CTR is implemented is central to its effects on storm water dischargers, as discussed below. Unfortunately, the State Implementation Policy does not fully correct or moderate the critical problems created by the proposed CTR.

Response to: CTR-001-001

EPA acknowledges that many dischargers have requested a longer comment period than was provided for the proposed CTR. The proposed CTR was published in the Federal Register on August 5, 1997 and the public comment period ended on September 26, 1997. This gave the public an opportunity of 52 days (over 7 weeks) within which to review and draft comments. The document was available through the Internet at EPA's website. EPA believes that this was a reasonable and sufficient time within which to complete a thorough review and to draft and submit comments to the Agency. The proposed CTR was not substantially different from California's prior law or the National Toxics Rule; it proposed to establish water quality criteria for priority toxic pollutants in the State of California and a compliance schedule provision for permits based on the proposed criteria. These provisions were not extensive or new; similar provisions have been in existence for the State of California and elsewhere in the country for many years.

The comment period is intended to provide commenters with a chance to substantively review the merits of the proposed action. For the proposed CTR, EPA expected and received comments on the scientific sufficiency of the criteria values and their underlying derivations, and on the compliance schedule provision. Comments concerning the implementation of the criteria should have been, and were, directed to the State of California. The State had proposed an implementation plan on September 12, 1997, during the public comment period of the proposed CTR. The comment period for the proposed implementation plan ended in December of 1997. The State's plan was also available to the public through the Internet.

Many commenters requested a longer comment period for the proposed CTR, to extend the time within which to review both the proposed CTR and the State's proposed implementation plan. The comment period for the proposed CTR overlapped with the first two weeks of the comment period for the State's

proposed implementation plan. EPA believes this was a reasonable and sufficient time within which to determine and comment on any issues concerning the proposed CTR criteria and compliance schedule provision due to the State's action. Commenters had several additional weeks to thoroughly review and comment on the State's specific implementation provisions in light of the proposed CTR criteria values. Although the CTR criteria and the State's implementation plan are related, the issues for comment are distinctly different and should have been directed to the respective appropriate entity. The CTR proposed water quality criteria which are scientifically-based and do not take economics into account; implementation procedures are not necessary in order to comment on the scientific underpinnings of the proposed water quality criteria.

The CTR and the State's implementation plan were not proposed together; they are separate phases of a comprehensive water quality control plan for the State of California and as such, can be commented on in phases. Both the EPA and the State published economic analyses which looked at the economic impacts of implementation of the respective proposed regulations. EPA's analysis for the proposed rule looked at the potential economic impacts of implementation of the proposed criteria using current State implementation procedures. The State's economic analysis for its proposed plan looked at the economic impacts of specific proposed implementation procedures.

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Comment ID: CTR-002-001  
Comment Author: Comm. for a Better Environment  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: Dear Ms. Frankel, Regional Administrator Marcus and Administrator Browner:

CBE believes that adoption of EPA's "California Toxics Rule" as proposed might represent the biggest step backward in toxics policy for San Francisco Bay in the twenty-five year history of the Clean Water Act.

The Rule would allow far more pollution than state water quality standards criteria EPA is trying to replace for most of the toxic pollutants of concern in the Bay. It would allow levels of dioxin compounds, mercury, polycyclic aromatic hydrocarbons, and toxic metals that already harm the fishing public and aquatic life to increase. Despite EPA's admission of soaring cancer risk and other toxic threats to Bay anglers, it would fail to protect people who fish for food unless they eat only starvation rations of one-seventieth of a pound of fish per day. Its dioxin criteria deregulate sixteen of the seventeen most toxic compounds known to science. It ignores proof of mercury bioaccumulation and evidence that its weaker copper criteria allow pollution levels that wiped out aquatic populations. It then proposes a system of "permits to pollute" above even-these inadequate standards for up to ten years. Many of these problems extend state-wide beyond the Bay.

EPA's analysis in the proposed Rule ignores protection of fishing people of color who are disproportionately imperiled by toxic pollution it would allow, and evidence EPA asked us for showing

that stronger rules than EPA'S drive pollution prevention which results in economic benefits to the manufacturing base. The proposed Rule does not appear to comply with federal laws which require protection of public health, fishing and aquatic life and equal protection under the law.

The massive scope of this policy change suggests the need for maximum public involvement. Unfortunately, EPA staff report receiving only one "public" comment to date. We believe that this critically important environmental health decision is not receiving adequate public scrutiny.

Accordingly, we request that EPA extend the comment period for the Rule beyond the present September 26, 1997 deadline, revise the toxics criteria to address the concerns detailed in our enclosed comments, and require present state implementation procedures instead of allowing permit schedules which could grant "permits to pollute."

We have begun to discuss these concerns with EPA staff, and hope to continue this process with you, Regional Administrator Marcus, and Administration environment officials, in order to seek ways in which we can move forward together to solve the serious toxic pollution problems affecting people and aquatic life in San Francisco Bay and throughout California. We propose a meeting at your offices at 2 p.m. or later on Wednesday, October 1, 1997 as a next step in these discussions.

Response to: CTR-002-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001. In response to the comment requesting present state implementation procedures instead of allowing permit schedules as proposed in the CTR, the State's implementation procedures were overturned by a State Courtruling in 1994. Thus, the State does not have a comprehensive set of implementation procedures. Each of the Regional Water Quality Control Boards implements water quality-based effluent limitations based on varying procedures, some of which have been formally adopted and others which have not. The Regional Boards may always implement any State adopted, federally approved water quality criteria through a State adopted, federally approved compliance schedule provision.

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Comment ID: CTR-004-005  
Comment Author: South Bayside System Authority  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: As stated above, most of the SBSA's concerns with the CTR, relate to the uncertainty of how the objectives will be implemented in permits. The CTR comment period should be extended to 90 days to allow sufficient time to review the draft implementation policy recently released by the state.

SBSA appreciates the opportunity to comment on the proposed rule. Please call me at (650) 594-8411 ext. 124 if you have any questions regarding the SBSA comments or need any additional information.

Sincerely,

James B. Bewley Manager

Response to: CTR-004-005

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-005-002  
Comment Author: Novato Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/23/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? Y  
**CROSS REFERENCES**

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Comment: 1. The deadline for submission of comments should be extended at least 60 days. This is necessary to allow a more detailed review of the rule and its impacts on the District, especially in light of the recent release of the Draft State Policy for Implementation of Toxics Standards.

Response to: CTR-005-002

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-007-005  
Comment Author: Port of San Diego  
Document Type: Port Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: 4. It is the District's understanding that the State Water Resources Control Board's ("SWRCB") implementation policy for the CTR will include a policy determination on which criteria will be used in mixing zones i.e. fresh or salt water. If this is indeed the case (which the District does not know because it has not yet received its copy of the implementation policy) then the District requests that the comment period be extended in order to evaluate the CTR with the SWRCB's implementation policy.

Response to: CTR-007-005

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-021-001

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: B Comment Period

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES

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Comment: In particular, Sunnyvale supports CASA/Tri-TAC's request for additional time in which to evaluate the potential impacts of the CTR in conjunction with the implementation plan being proposed by the State of California (the "State Proposal"). Sunnyvale obtained the State Proposal from the Internet as soon as it became available, yet Sunnyvale has had little time to digest the massive proposal and analyze its potential impacts on the implementation of the CTR. We suggest that most other California dischargers are in the same position and we strongly urge the Agency to reconsider its unfair and probably illegal decision to provide only a few days to assess and comment on what amounts to a joint promulgation by EPA and the State.

Response to: CTR-021-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-025-006a

Comment Author: Metro. Water Dist. of So. Cal.

Document Type: Water District

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: B Comment Period

References:

Attachments? Y

CROSS REFERENCES C-16

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Comment: Some of the concerns noted above could be addressed through the implementation provisions of the CTR. As you know, the State Water Resources Control Board has just made available for public review the Proposed Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (Proposed ISWP/EBEP Policy), the implementing document for the CTR. Because of the length of the document (several hundred pages) and the fact that it has only

recently become available, there has been insufficient time for thorough review. Yet, this document is crucial to understanding the practical impact of the CTR.

Metropolitan strongly requests that U.S. EPA extend the comment period on the CTR to December 10, 1997, the end of the comment period for the Proposed ISWP/EBEP Policy. This would allow drinking water suppliers and others affected by the CTR to evaluate the CTR in the context of its implementation. Without workable implementation provisions, the operational and economic impacts on drinking water suppliers could be significant and may need to be taken into account in the CTR. If the comment period is not extended, we ask that U.S. EPA fully consider the impacts of the freshwater aquatic life criteria on the operation and maintenance activities of drinking water suppliers and the effect on water reclamation activities and to modify the CTR, as necessary, so that these activities can continue to be undertaken in an economically feasible manner.

The CTR forms the backbone of the water quality regulatory process and Metropolitan urges U.S. EPA to review the proposed criteria in light of regulatory requirements of the California/Federal SDWA and the operating and maintenance requirements of drinking water suppliers. If you have any questions regarding Metropolitan's comments, please feel free to call Marcia Torobin of my staff at (213) 217-7830.

Response to: CTR-025-006a

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001. In response to the comment concerning the CTR's impact on drinking water suppliers, EPA notes that the criteria in the CTR do not impose any cost on anybody or entity. It is only when they are implemented through the State's process that economic impacts may be felt. The CTR's criteria legally apply only to water quality-based effluent limits in NPDES permits. The State on its own accord may apply the water quality criteria in other contexts and/or in other programs, and those applications may cause economic impacts.

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Comment ID: CTR-031-008a

Comment Author: Fresno Metro. Flood Ctrl Dist.

Document Type: Flood Ctrl. District

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: B Comment Period

References: Letter CTR-031 incorporates by reference letter CTR-027

Attachments? N

CROSS REFERENCES V

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Comment: d. The proposed CTR and the recently released proposed State Implementation Plan must be fully integrated, internally consistent, and their combined effect thoroughly assessed. However, EPA has allowed only one week of overlap between the proposals for stakeholder review.

The EPA concedes within the proposed CTR that the criteria themselves lack substance without the corresponding implementation measures. EPA also acknowledges that the economic impact of the CTR can not be fully evaluated without consideration of the ISWP. However, the EPA can not simply abdicate its responsibility to assess the impact of its proposal, nor can it expect stakeholders to accept the

proposed CTR without full understanding of its implementation.

All stakeholders require the opportunity to evaluate the proposed CTR and Implementation Plan together as a comprehensive, cohesive body of regulation.

Response to: CTR-031-008a

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-034-001

Comment Author: SCAP

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: B Comment Period

References: Letter CTR-034 incorporates by reference letter CTR-035

Attachments? N

**CROSS REFERENCES**

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Comment: The Southern California Alliance of Publicly Owned Treatment Works, or SCAP, is pleased to submit comments to the Environmental Protection Agency (EPA) regarding the Proposed Rule Regarding Water Quality Criteria for Toxic Pollutants for California (known as the California Toxics Rule, or CTR) SCAP's members include 47 public agencies that provide wastewater treatment services in Southern California.(\*1) Collectively, our member agencies serve over 16 million residents of Southern California. Our member agencies range in size from very small to very large, and include wastewater treatment facilities that discharge to inland surface waters, bays and estuaries, and the ocean. Most of our members are also involved in water reclamation activities. We appreciate the opportunity to comment on the proposed California Toxics Rule.

As noted in SCAP's testimony at EPA's public hearing held on September 18, 1997 in Los Angeles, we would like to request that EPA re-open the comment period on the CTR. We would, like the opportunity to more fully review the proposed rule and supporting documentation, and believe that the extra time would afford us the opportunity to develop additional meaningful comments on the proposed regulation and its potential impacts on the POTW community in southern California.

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(\*1) SCAP's members are located in the following counties: Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside, Orange, and San Diego

Response to: CTR-034-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-035-001

Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: We are writing on behalf of Tri-TAC and the California Association of Sanitation Agencies (CASA), which are California-based organizations comprised of members from public agencies responsible for wastewater treatment. Tri-TAC is an advisory group which includes representatives from CASA, the California Water Environment Association, and the League of California Cities. CASA is comprised of over 80 agencies responsible for the operation of publicly owned treatment works (POTWs). The constituency base for Tri-TAC and CASA encompasses most of the sewered population of California.

We have reviewed the draft rule containing proposed water quality criteria for toxic pollutants for California ("California Toxics Rule" or "CTR") that was published in the Federal Register on August 5, 1997. We have numerous specific comments on the proposed rule. Our specific comments are contained in two attachments. Attachment 1 contains our comments on specific sections of the draft regulation and the Economic Analysis. Attachment 2 is a critique of the Economic Analysis prepared by M.Cubed, a resource economics consultant to Tri-TAC, CASA, the Southern California Alliance of POTWs (SCAP), and the Bay Area Dischargers Association (BADA). We would like to highlight several priority concerns below.

First, we would like to reiterate our previous requests (see letters of July, 21, 1997 and August 12, 1997) that EPA reopen the comment period for the proposed rule in order to facilitate a more complete review by the public, and in particular, by those in the POTW community. EPA's own analysis shows that POTWs are the sector most affected by the rule (according to the Preamble. POTWs will incur 67 percent or 96 percent of costs under the low and high cost scenarios, respectively) (62 Fed. Reg. 42189). We believe that it is common practice for the Agency to provide 90 days -- or even longer -- for comment periods on proposed rules, particularly if there is no court order dictating a promulgation schedule (and we are not aware of any court decision requiring a specific schedule for promulgation of the CTR). It is our understanding, for instance, that EPA provided a 150-day comment period for the Great Lakes Initiative in 1993.

In addition, as we noted in our previous letters, we understand that EPA and the State Water Resources Control Board (SWRCB) are promulgating the criteria and Statewide Implementation Policies in a collaborative manner. We respectfully request that you provide an extension in order to facilitate a more complete review of the SWRCB's Draft Implementation Policy, which was released on September 12. Because of the impending deadline for comment on the CTR, we have not had time to conduct more than a cursory review of the SWRCB's proposal. Therefore our comments by and large do not take into account the draft Implementation Policy of the SWRCB, which may alter our interpretation of some aspects of the CTR.

Further, we believe that EPA has an obligation under Section 6(a) of Executive Order 12866, which requires all federal agencies, including EPA, to provide a "meaningful opportunity to comment on any

proposed regulation, which in most cases should include a comment period of not less than 60 days." (emphasis added). While we believe that the CTR is a "significant regulatory action," the comment period requirement applies even if EPA does not agree. The Agency is also required under the Unfunded Mandates Reform Act of 1995 (2 U.S.C.A. 1511 et. seq.) to provide "meaningful and timely review" by small governments. Aside from the fact that EPA has not provided the minimum of 60 days on the proposed CTR itself, the State Water Resource Control Board did not make its proposed implementation plan (the "State Proposal") available until September 12 (with effective distribution delayed for several days), which means that the public will have a period of less than two weeks to review the State Proposal, relate its provisions to the proposed CTR and formulate comments. This is obviously an inadequate time period in which to review a package of approximately 200 pages, which contains many proposals on a variety of complex matters which could substantially alter the potential impacts of the CTR.

We believe that the State Proposal is an integral part of the CTR; this belief is supported by the dozens of references to the future exercise of regulatory authority by the State of California scattered throughout the Preamble to the CTR (see, for instance, pp. 42173, 42174, and 42185, as well as numerous references in the Economic Analysis). The EPA even concedes (at p. 42188): "A more precise measure of costs and benefits may not be known until the State adopts its implementation provisions." In short, the CTR may have many significant impacts on the regulated community, the nature of which are dependent upon the contents of the State Proposal, and yet EPA is not willing to give the affected community the time to analyze and comment meaningfully upon the EPA rule, as proposed to be implemented by the State. This is, we believe, a violation of the Executive Order and the Unfunded Mandates Reform Act. We do not believe that EPA can justify its comment deadline by the requirement of Section 303(c)(4) to promulgate the final rule within 90 days after the proposal, since EPA has already signaled its Intention to take longer than 90 days to finalize the rule. EPA thus has no obvious reason to object to allowing additional time for review of the CTR nor has EPA offered any reasonable explanation for its lack of compliance with Executive Order 12866 and the Unfunded Mandates Reform Act.

Response to: CTR-035-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001. In response to the comment concerning the Great Lakes Initiative (GLI), the GLI was a much more complex rulemaking than the CTR. The GLI applied to eight states and promulgated water quality criteria and many implementation procedures. In contrast, the proposed CTR promulgated criteria for only one state and had only one implementation procedure - a compliance schedule provision. The proposed CTR was not substantially different from California's prior law or the National Toxics Rule. Although the GLI comment period may have been substantially longer, the complexity of the rule was much greater, warranting the longer time frame. EPA's usual comment period is 45 days; EPA extended this to over 50 days for the proposed CTR to ensure that a reasonable overlap of time existed with the comment period for the State's proposed implementation plan.

In response to the comment concerning Executive Order (E.O.) 12866 and the Unfunded Mandates Reform Act, each of which discusses comment periods for proposed rulemaking activities, see the preamble to the final rule. EPA believes that over 7 weeks to review and comment on this proposed straightforward and basic water quality rule was adequate, especially because this rule was not substantially different from California's prior law or the National Toxics Rule. Although E.O. 12866 states that in most cases, agencies should afford a comment period of not less than 60 days, in this case, EPA provided 52 days because it thought this period adequate (for reasons stated above) and because EPA had a statutory deadline to promulgate 90 days after proposal.

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Comment ID: CTR-037-004  
Comment Author: Hampton Roads Sanitation Dist.  
Document Type: Sewer Authority  
State of Origin: VA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: 4. EPA has not provided sufficient time to review and comment on all of the changes that it is making in various water quality criteria. Only 7 weeks were provided to comment on over 20 different criteria, when EPA is providing almost 9 weeks to comment on one criterion (TBT, Aug. 7 - Oct. 6, 1997). This magnitude of change requires at least a 180 day comment period. Therefore the comment period should be extended, at a minimum, to February 1, 1998.

Response to: CTR-037-004

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-038-001  
Comment Author: Sonoma County Water Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: 1. The deadline for submission of comments should be extended at least 60 days. This is necessary to allow a more detailed review of the rule and its impacts on the District, especially in light of the recent release of the Draft State Policy for Implementation of Toxics Standards.

Response to: CTR-038-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-041-001  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority

State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: The Sacramento Regional County Sanitation District (District) appreciates the opportunity to submit these comments on the proposed California Toxics Rule (CTR). The District provides wastewater treatment service to approximately one million people in the Sacramento metropolitan area. The Sacramento Regional Wastewater Treatment Plant (SRWTP) discharges approximately 160 million gallons per day of treated wastewater to the Sacramento River.

Our response has been limited due to the limited comment period. We are also concerned about not having time to analyze the CTR with the State Water Resources Control Board's draft policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California which was released on September 12. It is essential that sufficient time is provided to conduct a detailed review of the CTR and to assess its impact on the draft implementation policy by the State. As we have previously requested, the comment period should be extended.

Response to: CTR-041-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-043-001  
Comment Author: City of Vacaville  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? Y

**CROSS REFERENCES**

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Comment: Our comments on the proposed CTR are as follows:

1. The deadline for submission of comments should be extended at least 60 days. This is necessary to allow a more detailed review of the rule and its impacts on the City, especially in light of the recent release of the Draft State Policy for Implementation of Toxics Standards.

Response to: CTR-043-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-044-001  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: The City of Woodland appreciates the opportunity to submit these comments on the proposed California Toxics Rule (CTR). We would appreciate the opportunity to provide additional comments based on the draft implementation policy recently released by the State. This letter summarizes the comments based on our review to date.

Response to: CTR-044-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-044-002  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: We have reviewed the proposed CTR and offer the following comments:

1. The deadline for submission of comments should be extended at least 60 days. This is necessary to allow a more detailed review of the rule and its impacts on the City, especially in light of the recent release of the Draft State Policy for Implementation of Toxics Standards.

Response to: CTR-044-002

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-045-001  
Comment Author: Sausalito-Marín Sanitary Dist.

Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: It is requested that the comment period for the California Toxics Rule (CTR) be reopened. An additional sixty days would allow for a more complete review of the impacts on the District as well as facilitating a more complete review by the public. An extension would also enable a more complete review of the State Water Resources Control Board's Draft Implementation Policy, which is not taken into account in the following comments:

Response to: CTR-045-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-049-001  
Comment Author: Watereuse Assoc. of California  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: WateReuse believes that the designation of the relatively short comment period proposed of fifty days does not afford a comprehensive and complete public review of the rule. It is our opinion that should a decision be made to reopen and/or extend the public comment period on this subject, USEPA and the rulemaking process will benefit from the additional input of appropriate and valuable information. This would allow for, and include, a more thorough review and coordination of public comment with the lengthy Draft Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California just released by the State Water Resources Control Board (SWRCB) on September 12, 1997. We therefore would request that the comment period for the draft CTR be reopened and/or extended to reflect the weight of this proposed rule, the impact it will have on all statewide stakeholders, and the need for better coordination of comments with the just released draft state plan.

Response to: CTR-049-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-052-001

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: B Comment Period

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

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Comment: The Authority acknowledges the importance of the CTR and the efforts that went into its creation. EPA has taken several years to prepare the CTR, yet has given the public only a 45 day period in which to develop comments. In addition, the State Water Resources Control Board issued its Draft Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (Implementation Plan) on September 12, 1997. The Authority received its copy on September 16, 1997. Thus there has been less than two weeks to review both documents to determine the potential impact on the Authority, its member agencies, and the public which they serve. On July 17, 1997, requested an extension of the public comment period, and that request was denied.

In the short time available to review the CTR and the EA, it has been determined that the CTR, as currently proposed, will have tremendous economic impacts on our ratepayers. In addition, it appears that the EA is so seriously flawed from both a cost and benefit perspective, that EPA's justification for promulgating the CTR is seriously questioned. The CTR and the EA briefly discuss "relief options" for dischargers that will be available through the State. We have been so preoccupied with reviewing the CTR that there has been no opportunity to properly review the Implementation Plan. In view of the cost implications, more time is needed to provide adequate review time for the Implementation Plan as it relates to the CTR and the EA. Therefore, I again repeat my request for EPA to reopen the public comment period. It should be reopened through December 10, 1997 to coincide with the comment period for the Implementation Plan.

Response to: CTR-052-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-052-013

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: B Comment Period

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

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Comment: C. RECOMMENDATIONS FOR MODIFICATIONS TO THE CTR AND EA

Reopen the public comment period to coincide with the comment period for the State Implementation Plan, through at least December 10, 1997.

Response to: CTR-052-013

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-054-001

Comment Author: Bay Area Dischargers Assoc.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: B Comment Period

References:

Attachments? Y

CROSS REFERENCES

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Comment: The comment period should be extended to 90 days. The rule is critical to California and it is essential that all parties have ample time to review it in detail and to assess its impact based on the draft implementation policy recently released by the State. There is no reason to rush the final version of the rule.

Response to: CTR-054-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-056-001

Comment Author: East Bay Municipal Util. Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: B Comment Period

References: Letter CTR-056 incorporates by reference letter CTR-054

Attachments? N

CROSS REFERENCES

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Comment: First, like many other agencies submitting public comment, EBMUD requests that EPA give serious consideration to reopening the comment period for the CTR to provide affected dischargers sufficient time to conduct a thorough review of the proposed rule. This is especially of concern to the EBMUD in the context of having to also review the recently published, "Policy for Implementation of

Toxics Standards for Inland Surface Waters and Enclosed Bays, and Estuaries of California" and "Functional Equivalent Document" [September 11, 1997]. For POTWs, the only way to completely evaluate the regulatory and economic impacts of the CTR is to review both documents together. Because of the limited time in which to conduct such a review, and in recognition that EPA has provided extensions for past rulemaking (e.g. a 150-day comment period for the Great Lakes Initiative in 1993), this request is reasonable and will result in a more complete review by the public.

Response to: CTR-056-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001 and CTR-035-001.

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Comment ID: CTR-057-002  
Comment Author: City of Los Angeles  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: We also wish to emphasize the need for additional time to review the proposed Rule in light of the State Water Resources Control Board's (SWRCB) Draft Implementation Policy for Toxics Standards, which was released for general distribution less than two weeks ago. Because these proposed plans involve complicated issues that may significantly increase our treatment costs, and because we have not had sufficient time to review the State's draft document, we may submit additional comments based on further analysis of the CTR as it relates to the SWRCB's September 12, 1997 draft document.

Response to: CTR-057-002

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-058-002  
Comment Author: Western States Petroleum Assoc  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: We are also deeply concerned that EPA has given a relatively short comment period on this very lengthy and complex rulemaking. EPA has taken years to develop these rules. We see no reason for EPA's failure to grant an additional 30 days for comments on this important rule since the promulgation and implementation of this proposal is many months away, and considering that stakeholders have had only a few days to obtain and consider the state's implementation policy which is a parallel rulemaking.

Response to: CTR-058-002

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-059-003

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: B Comment Period

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES

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Comment: The Sanitation Districts would greatly appreciate additional time to review the proposed rule. As discussed above, the rule will clearly have significant impacts on our facilities and on the residents and businesses in our service area, as well as on numerous other POTWs and local governments in California. While EPA has minimized the significance of the rule in its analysis, the bottom line is that the rule will promulgate some 190 water quality criteria for California for about 70 different pollutants. While a few of these criteria have previously been promulgated by EPA through the 1992 National Toxics Rule (NTR), approximately 70 of them have been recalculated, modified, or added by EPA since the 1992 NTR. To adequately review these changes requires a great deal of time and effort, especially since only a few of the changes are discussed in the Preamble and many of the supporting documents cannot be readily accessed outside of EPA. Therefore, the Sanitation Districts respectfully request that EPA provide at least 30 additional days for public review and comment.

Response to: CTR-059-003

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001. In response to the comment concerning records, a complete record of supporting documents is available at the U.S. EPA Region 9 office in San Francisco, and many of the important documents are available at the U.S. EPA Headquarters Office in Washington, D.C. The availability of these documents was published on the first page of the preamble to the proposed CTR.

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Comment ID: CTR-061-004

Comment Author: G. Fred Lee & Associates

Document Type: Academia

State of Origin: CA

Represented Org:

Document Date: 09/25/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? Y

**CROSS REFERENCES**

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Comment: While I do not know how long it would take the US EPA to conduct the required analyses of the urban stormwater runoff costs and real water quality benefits, it would seem appropriate that taking a few months to accomplish this could, in the long term, represent a time and resource savings in terms of ultimately correcting the significant technical problems that exist today in regulating urban stormwater runoff. I recommend the following:

Urban stormwater dischargers as well as other interested parties should be provided a several-month period during which a preliminary assessment of the potential costs and water quality benefits associated with having to meet CTR criteria as standards in the receiving waters for stormwater runoff of concern to the discharger, is conducted and reported to US EPA Region 9.

The US EPA should take several months to develop an amended draft CTR that provides a reliable economic analysis of costs and potential benefits covering the current regulatory approach for regulating chemical constituents urban stormwater runoff which involves a ratcheting down of BMPS to achieve the ultimate goal of only one exceedance of a water quality standard every three years in the receiving waters for stormwater runoff.

The public should be given a two-month period during which to review and comment on the adequacy of the US EPA's economic analysis of costs and benefits of achieving the currently mandated goal of using CTR criteria as standards for receiving waters for regulated urban stormwater runoff.

Adoption of this approach will send a clear signal to the public that the US EPA is finally willing to meaningfully address the heart of the urban wet-weather runoff water quality management problem. With the Agency's, for the first time, reliably developing information on costs and true water quality benefits, the public, Congress, regulators and the regulated will begin to understand the need to change how urban and highway stormwater runoff is regulated to protect the designated beneficial uses of waterbodies without significant unnecessary expenditures for chemical constituent control.

Response to: CTR-061-004

See response to CTR-013-003.

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Comment ID: CTR-065-001  
Comment Author: Environmental Health Coalition  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Environmental Health Coalition (EHC) has not yet fully reviewed the proposed California Toxics Rule (CTR). We were unable to successfully download the document and therefore have not been able to conduct a full- review on the proposed rule in time to meet the comment period deadline. We request additional time to-comment but will make our comments based on limited review today.

Response to: CTR-065-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-066-001

Comment Author: Delta Diablo Sanitation Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: B Comment Period

References:

Attachments? N

**CROSS REFERENCES**

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Comment: The District has done its best to stay up-to-date on happenings surrounding the CTR and have attempted to complete our review of the proposed rulemaking. However, given the nature of this rulemaking and the companion pieces currently being pursued by the State Water Resources Control Board, it is practically impossible for us to give you anything more than preliminary comments on the CTR. Extensive work has been done by your agency to fill the void left by the litigation that overturned the State Board's rulemaking, and that has resulted in a significant period of time for both your staff and others to complete this rulemaking. It is our belief that you should allow adequate time for medium-sized agencies such as ours to be able to hire consultants or other technical professionals to assist us in this very important rulemaking. In addition, the information related to the economic analysis associated with this is difficult at best and we have not been able to hire anyone to assist us in completing our evaluation. Consequently, we would request a significant extension of either 90 or 150 days to allow us to complete our analysis. We will also be preparing our NPDES permit renewal request in the next six months and expect that many of the issues that will come out of our review of the CTR will relate directly to our activities on the permit. As a consequence, we would request that this extension in time be allowed for all agencies in the state.

The District fully supports EPA and the State Water Resources Control Board (SWRCB) program to promulgate both the criteria and statewide Implementation Policies in the collaborative manner currently being approached. However, because of the late release of the Implementation Policy by the state, we are not able to have reviewed both that policy and the CTR for conformance and detail. We have only had a short 14 days to complete this analysis and that just has not been adequate to complete the response. We believe that the state's comment period lasting until December, 1997, is far more equitable and reasonable given the substantial nature of the criteria being established. We would further request that EPA and SWRCB give serious consideration to establishing a blue ribbon technical committee to assist with this collaborative effort so that concerns and needs of the regulated community can be thoroughly considered so that there will be broad public acceptance of the results of this most important work.

Response to: CTR-066-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001. In response to the comment concerning the blue ribbon technical committee, the State, during its redrafting process of the implementation plan, convened numerous task force groups with a number of different stakeholder representatives on each task force, to solicit comments and ideas concerning the issues. EPA was fully represented on each task force, and listened to all comments concerning the State's water quality control plans. EPA hopes the commenter had the opportunity to participate in these task force groups.

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Comment ID: CTR-067-001

Comment Author: Ojai Valley Sanitary District

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: B Comment Period

References:

Attachments? N

CROSS REFERENCES

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Comment: Having just completed such a costly time consuming project, OVSD requests that EPA extend the comment period on the CTR. Allowing an extended comment period would provide for a more thorough review of the proposed rule and supporting documentation, and allow OVSD .adequate time to develop specific comments on the rule relative to its impact on our new treatment plant and our residents. In addition, an extended comment period would allow EPA the opportunity to work more closely with the State Water Resources Control Board (SWRCB) in developing simultaneous comment periods and joint final promulgation, since EPA acknowledges that the impacts of the CTR criteria depend greatly on the State's approach to implementation. This would provide the added benefit that a more streamlined and effective CTR and Statewide Implementation Policy be developed, potentially reducing the resistance by dischargers upon promulgation and implementation. Thus, OVSD asks that EPA extend the comment period until December 10, 1997, the SWRCB's public comment deadline, or at a minimum, for 30 (thirty) days.

Response to: CTR-067-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-068-001

Comment Author: California Chamber of Commerce

Document Type: Industry Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: B Comment Period

References:

Attachments? N

**CROSS REFERENCES**

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Comment: We find ourselves in a quandary over the timeline for commenting on this proposed rulemaking package. The Environmental Protection Agency is allowing only 50 days for public comment on a proposal whose complexity really warrants more time. A public comment period spanning the summer months further exacerbates the situation by ensuring that only a minimal staff would be available to review the proposal.

We are further concerned that our members have had virtually no time to obtain the state's proposed implementation policy, which is parallel rulemaking to this one, as it has just been released for public review. Given the potential enormous impacts of this rulemaking, it is not unreasonable to suggest extending the deadline for comments.

The California Chamber of Commerce, on behalf of its members, requests that you consider extending the deadline for comments for at least another 30 days and preferably 60 days to accommodate the business community's concerns on this important package.

Response to: CTR-068-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001. In response to the comment that since the comment period spanned the summer months which exacerbated the situation since minimal staff were available, EPA had no intention of proposing during an inconvenient time period. This was the time period after which the Agency obtained its internal administrative and OMB approval to propose the rule. EPA notes that the comment period ran through September 26, 1997, a month in which most people have returned from summer vacations.

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Comment ID: CTR-069-001

Comment Author: CA Bus Prop Ass & Bldg Ind Ass

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: B Comment Period

References:

Attachments? N

**CROSS REFERENCES**

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Comment: In light of the recent release of the State Water Resources Control Board Proposed Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, CBIA and CBPA request that EPA extend the comment period on its proposed rule for at least an additional 30 days in order for CBIA and CBPA to analyze the proposed rule in relation to the state's proposed implementation policy. Of primary concern to CBIA and CBPA is how the proposed rule in concert with the state's proposed implementation policy will affect the construction stormwater permit process.

Response to: CTR-069-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-070-001  
Comment Author: Sewerage Agency of Sthrn Marin  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: Request to extend comment period Initial review indicates that the proposed rule will have a significant impact on SASM. An additional 60 days is requested to allow for a complete review. Extension of the comment period will also help to facilitate a more complete review of the companion State Water Resources Control Board's Draft implementation Policy.

Response to: CTR-070-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-081-001  
Comment Author: West County Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: \* The WCA strongly requests that the comment period be extended or reopened. This is appropriate to facilitate a more complete review by the public, particularly other POTWs. In addition, our agency needs additional time to review SWRCB's State Implementation Policy before the full impact of the CTR can be estimated. It is our understanding that a 90-day comment period is common. We recommend the comment period be extended to 90 days.

Response to: CTR-081-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-082-001  
Comment Author: City of Burbank  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: The subject rule has a significant impact on our facility discharge and the citizens of the City. We therefore present the following comments for your consideration to re-open the comment period for this rule in order to facilitate a more complete review by public and in particular by those in the POTW community:

\* Even though the EPA is not obligated to provide more than 30 days for public comment, it has been common practice for the agency to provide comment periods of 90 days or longer for significant rules. As an example, your agency provided a 150 day comment period for Great Lakes Initiative in 1993.

\* The request for extension of the comment period for this rule is really necessary and justified to facilitate a complete review of the State Water Resources Control Board's (SWRCB's) Draft Implementation Policy which was released on September 12, 1997. As the USEPA and STWRCB are simultaneously promulgating the CTR and Criteria and Statewide Implementation Policy, the POTW's did not have adequate time to review the CTR, State Implementation Policy and supporting discussion which are quite lengthy and voluminous. As a result any comments we have, by and large don't take into account the draft implementation policy.

Response to: CTR-082-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001 and CTR-035-001.

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Comment ID: CTR-083-001  
Comment Author: Fairfield-Suisun Sewer Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: B Comment Period  
References: Letter CTR-083 incorporates by reference letters CTR-035 and CTR-054  
Attachments? N  
CROSS REFERENCES

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Comment: The District believes that Region IX has been remiss in its failure to allow sufficient time to comment on this complex regulation. By adhering to minimum legal requirements and denying

additional time for review and comment, Region IX will not benefit from a comprehensive review by affected parties that could lead to a more effective regulation.

Response to: CTR-083-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-085-001  
Comment Author: Camarillo Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: The District is an active member of both the California Association of Sanitation Agencies (CASA) and the Southern California Alliance of Publicly Operated Treatment Works (SCAP) and vAH be reiterating several of the comments of these organizations on the California Toxics Rule, which the District fully supports:

The District requests that the EPA reopen the comment period for the proposed California Toxics Rule in order to facilitate a more complete review by the public and in particular, by those in the Publicly Operated Treatment Works (POTW) community. While the District realizes that the EPA is not obligated to provide more than 30-days for public comments, the Agency has provided comment periods of 90 days or longer for significant rules. For example, the EPA provided a 150-day comment period for the Great Lakes Initiative in 1993.

Response to: CTR-085-001

In response to the first comment requesting an extension of the comment period, please refer to response to CTR-001-001 and CTR-035-001.

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Comment ID: CTR-085-002  
Comment Author: Camarillo Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: The District is an active member of both the California Association of Sanitation Agencies (CASA) and the Southern California Alliance of Publicly Operated Treatment Works (SCAP) and vAH be reiterating several of the comments of these organizations on the California Toxics Rule, which the District fully supports:

The District also believes that an extension of the comment period is justified to facilitate a more complete review of the State Water Resources Control Board's (SWRCB) Draft Implementation Policy, which was released on September 12, 1997. It is the District's understanding that the EPA and the SWRCB are promulgating the criteria and statewide implementation policies in a collaborative manner and the extension would allow for more complete review of and comments on the California Toxics Rule, the Implementation Policy and supporting documents.

Response to: CTR-085-002

In response to the second comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-089-002  
Comment Author: Las Virgenes Mncpl Water Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: While the draft regulations demonstrate clear progress on these and other issues, there remain some unresolved problems that could compromise our ability to serve our customers. We offer these comments in the hope of minimizing those potential impacts.

Adequacy of the 30-Day Public Comment Period

The CTR is a major revision of the regulations governing the discharge of toxic pollutants throughout the state. While not required by law, we respectfully request that the USEPA extend the draft CTR public comment period to at least 90 days. We believe this is justified and necessary given the scope, length, and technical content of the proposed regulations. In particular, due to the limited time to review these regulations, we were unable to closely examine the proposed State Implementation Policy (SIP), which provides detailed guidance to the state's Regional Water Quality Control Boards, which must enforce these new regulations.

#### SUMMARY

We hope these comments will help to make the final CTR a better document and a better law. Overall, the draft CTR reflects substantial thought and effort on how best to implement the Clean Water Act's mandate of reducing pollutant discharges to the nation's receiving waters. The draft CTR clearly advances this goal, but our hope is that those agencies and parties most-directly affected by it will be

allowed additional time to review it to their satisfaction. We strongly encourage a more detailed assessment of the actual economic impacts that could result from these new regulations. The ability of public utilities to fund new projects has never been lower, and every rate increase requires sound and well-founded justification. No ratepayer should be asked to shoulder the cost of new regulations without a clear and detailed explanation of what it is going to cost, and what benefits will result. State mandated costs require state funding.

We appreciate this opportunity to comment on the draft California Toxics Rule. Please do not hesitate call myself or Dr. Randal Orton in our Resource Conservation and Public Outreach Department to tell us how we can help you further.

Response to: CTR-089-002

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-090-001  
Comment Author: C&C of SF, Public Util. Commis.  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: B Comment Period  
References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054  
Attachments? Y  
**CROSS REFERENCES**

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Comment: The proposed rule and the accompanying economic analysis contain a significant amount of highly technical and complex information. We appreciate the time and effort that went into this proposal. However, we are extremely disappointed that EPA is unwilling to allow a longer review time, especially considering the delay in releasing the State Implementation Policy. We join other who have already requested an extension of the comment period.

Response to: CTR-090-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001 and CTR-035 -001.

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Comment ID: CTR-094-001  
Comment Author: SAIC  
Document Type: Engineering Firm  
State of Origin: CA  
Represented Org:  
Document Date: 09/30/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N

## CROSS REFERENCES

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Comment: SAIC has reviewed the draft rule proposing water quality criteria for toxic pollutants for California (California Toxics Rule) that was published in the Federal Register on August 5, 1997 and believe that the breadth and complexity of the draft CFR and the accompanying economic impact analysis warrant an extension of the comment period for an additional 30 days.

SAIC is a diversified, scientific, engineering, research, and development company that provides technical and management services and products to private industry and the Federal government. SAIC was organized in 1969 to apply the techniques successfully employed in high technology areas to major national and international programs. Over the past 28 years, SAIC's team of professionals has grown from a handful to more than 22,000 employees throughout 250 locations in the United States and abroad.

SAIC is making this request to ensure that sufficient time is available to the public to coordinate the review of the CFR with an evaluation of the State of California's anticipated proposal of implementation policies for the criteria, which is scheduled to be released September 12, 1997. Providing overlapping comment periods will allow interested parties to understand the full contents and implications of the regulations, which are being partially adopted by the US EPA and partially developed by the State in 303 (c)(2)(b) of the Clean Water Act.

If you have any questions, please call me at 650-604-0924. Thank you for your consideration of our request.

Response to: CTR-094-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTR-096-005  
Comment Author: City of Modesto  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Thank you for the opportunity to comment on the proposed California Toxics Rule. The City's comments are related to five main concepts:

5. Additional time is needed to assess the specific impacts that the proposed Rule will have on the City of Modesto system.

Specifically, the City submits the following comments:

H. Although Modesto's wastewater treatment system and storm water disposal system is not entirely

unique to most Central Valley communities, it is one of the more complex systems in the state. It is among the top 20 in size in a state with nearly 500 POTWs. In order to best evaluate the effect of The California Toxics Rule on Modesto, additional comment time is needed. Also, more time is needed to facilitate a more complete review of the State Water Resources Control Board's (SWRCB) draft implementation policy, which was released September 12, 1997. By and large, these comments do not take into account the draft implementation policy of the SWRCB.

Response to: CTR-096-005

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRE-001-001a  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 07/21/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES V

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Comment: We are writing to you on behalf of Tri-TAC and the California Association of Sanitation Agencies regarding the forthcoming publication of the proposed Water Quality Standards for Toxic Pollutants for California ("California Toxics Rule") and release of draft state implementation policies and functional equivalent document. As you are aware, Tri-TAC and CASA have supported the decisions of the U.S. Environmental Protection Agency (EPA) and the State Water Resources Control Board (SWRCB) to eliminate duplication in state and federal water quality rulemaking activities through the pursuit of a collaborative approach. Our understanding is that, through this approach, EPA will adopt water quality criteria for toxic pollutants that will apply in California and the SWRCB will adopt implementation policies that will guide the Regional Water Quality Control Boards in the implementation of those criteria. In a later phase, the SWRCB intends to adopt state criteria that will replace the federal criteria.

We have been informed recently by EPA staff that publication of the draft California Toxics Rule is imminent and is expected to take place by the end of July. According to staff, a 50-day public comment period will be provided. We have heard from SWRCB staff that they plan to release the proposed state implementation policies and FED on September 12. We have asked each agency to provide an overlapping comment period for these draft regulations, and have been informed that the current schedule will provide about one week of overlap, assuming that both agencies release their drafts on schedule. We are quite concerned about this situation in several respects. First, we believe that a one-week overlap does not provide sufficient time for a meaningful review and comparison of the regulations (and comparative analysis of the economic impact analyses, which depend heavily on the implementation policies). We believe that a minimum of 30 days is necessary for the overlap review period, and that the slight delay that this would create for EPA is warranted and would have a negligible impact on the timing of the overall rule promulgation process. Second, we are very concerned about whether the SWRCB will meet its projected release schedule. While we believe that sufficient time has been available to prepare

the draft policies and FED, it is imperative that the SWRCB do everything possible to meet its commitment to move forward in a timely manner, and that any extension of EPA's comment period not be used to adjust the state's schedule. Third, we understand that both EPA and the SWRCB plan to hold public hearings regarding their respective proposals this fall. We believe that it is important that representatives of both agencies attend and participate in the hearings that each agency holds, and that an explanation be provided regarding both the CTR and the implementation policy.

In short, we request that EPA and the SWRCB carefully review their efforts to coordinate both the development and release of the California Toxics Rule and State implementation Policies, and specifically, we request that EPA provide a comment period sufficient to ensure that a 30-day overlap will occur with the SWRCB's release of the FED for the State Implementation Policies. More generally, we hope that both agencies will offer flexibility in the promulgation process so that the various scheduling and review needs can be met. We hope that your respective agencies will continue to move forward with a collaborative rulemaking process, and are concerned that cooperation not break down due to institutional barriers at this point in the process.

Thank you for your consideration of our comments. We would be happy to discuss these issues further at your convenience.

Response to: CTRE-001-001a

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001. In response to the comment concerning the coordination of public hearings, the State was invited to speak about its proposed implementation plan at EPA's public hearings on the CTR. Although they did not make any formal presentation, they were available to answer questions and in fact did answer questions posed to them concerning the implementation policy.

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Comment ID: CTRE-001-002  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 07/21/97  
Subject Matter Code: B Comment Period  
References:

Attachments? N

**CROSS REFERENCES**

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Comment: I am writing on behalf of Tri-TAC and the California Association of Sanitation Auencies (CASA), which are California-based organizations comprised of members from public agencies responsible for wastewater treatment. Tri-TAC is an advisory group which includes representatives from CASA, the California Water Environment Association, and the League of California Cities. CASA is comprised of over 85 agencies responsible for the operation of publicly owned treatment works (POTWs). The constituency base for Tri-TAC and CASA encompasses most of the sewered population of California. Representatives of CASA and Tri-TAC have met with EPA staff over the past several years to discuss the development of the proposed rule, and appreciate the Agency's efforts to inform the regulated community about the pending regulation.

We have reviewed the draft rule proposing water quality criteria for toxic pollutants for California ("California Toxics Rule" or "CTR") that was published in the Federal Register on August 5, 1997 and believe that the breadth and complexity of the draft CTR and the accompanying economic impact analysis warrant an extension of the comment period for an additional 30 days. In particular, we are making this request to ensure that sufficient time is available to the public to coordinate the review of the CTR with an evaluation of the State of California's anticipated proposal of implementation policies for the criteria which is scheduled to be released September 12, 1997. Providing overlapping comment periods will allow interested parties to understand the full contents and implications of the regulations, which are being partially adopted by EPA and partially developed by the State in order to achieve full compliance with Section 303(c)(2)(b) of the Clean Water Act.

I would appreciate it if you would notify me at the above address of your decision. Thank you very much for your consideration of our request.

Response to: CTRE-001-002

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRE-002-001  
Comment Author: G. Fred Lee & Associates  
Document Type: Academia  
State of Origin: CA  
Represented Org:  
Document Date: 09/18/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: I wish to follow up on yesterday afternoon's US EPA Region 9 hearing on the draft California Toxics Rule (CTR) criteria to reinforce the comments made by a number of urban stormwater dischargers about the need to extend the deadline for receipt of written comments. I have been involved in water quality criteria development and implementation since the mid-1960s where I have worked with federal, state and local governmental agencies and/or the regulated community. I find that it would be a serious error on the part of US EPA Region 9 and US EPA headquarters to proceed with the September 26, 1997 deadline for receipt of written comments on the CTR. There are many reasons for providing at least a 30- to 45-day extension of the date by which the written comments should be received. These include the fact that it took the USEPA Region 9 several years to develop the California Toxics Rule criteria beyond when they were due. To now not grant politically important entities, such as the major urban stormwater dischargers, adequate time to develop the information that needs to be developed and that should have been developed by the US EPA Region 9 as part of promulgating the draft California Toxics Rule would, in my opinion, be viewed as extremely short-sighted on the part of US EPA Region 9 and US EPA headquarters.

Response to: CTRE-002-001

In response to the comment requesting an extension of the comment period, please refer to response to

CTR-001-001.

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Comment ID: CTRE-002-005

Comment Author: G. Fred Lee & Associates

Document Type: Academia

State of Origin: CA

Represented Org:

Document Date: 09/18/97

Subject Matter Code: B Comment Period

References:

Attachments? N

**CROSS REFERENCES**

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Comment: As I testified at yesterday's hearing, the issue of urban stormwater runoff water quality management is in chaos. This situation has been well understood for at least five years. While attempts are being made to address these issues through the US EPA headquarters' various wet weather committees, thus far the fundamental issue that was raised yesterday at the hearing by urban stormwater discharger after discharger has not been adequately addressed, i.e. ultimately having to achieve water quality standards based on CTR criteria in the receiving waters for the discharge through ever-increasingly more stringent BMPS. While the proposed CTR does not specify a time period over which the BMP ratcheting-down process will occur, there can be no doubt that this time period will be set by the courts through litigation brought by environmental groups who will assert that an NPDES-permitted stormwater discharger is not making adequate progress toward achieving the ultimate goal of only one violation of a water quality standard every three years for regulated constituents. Because of the uncertainty of how the courts will handle this matter, stormwater dischargers could be faced with having to achieve water quality standards in the discharge waters within five to ten years. Clearly there is need to understand the cost and benefits associated with achieving these standards as part of adopting the CTR as it is applied in regulating urban stormwater runoff water quality.

As part of my comments on the significant technical deficiencies in the CTR as drafted, I will be providing a discussion of technical back-up to these issues from the published literature. Many of my papers and reports on this topic are available from my web site (<http://members.aol.com/gfredlee/gfl.htm>).

It is my recommendation that US EPA Region 9 and US EPA headquarters should postpone any adoption of the California Toxics Rule until the US EPA properly presents and discusses the potential costs and the potential benefits in terms of real improvements in designated beneficial uses of receiving waters that will likely accrue as the result of regulated urban stormwater discharges ultimately having to comply with water quality standards based on CTR criteria. The US EPA Region 9 should allow the stormwater dischargers the opportunity to provide information on the cost and benefits arising from applying these criteria to stormwater discharges as required by the Clean Water Act when it becomes clear that BMPs of the type that are readily available today will not eliminate the administrative exceedances of water quality standards numerically equal to the aquatic life criteria set forth in the CTR. After allowing the urban stormwater dischargers to provide this information, the US EPA then, in turn, should develop an economic analysis that reliably presents and discusses these issues. As I testified, this process is the necessary first step to correcting the significant chaos that now exists in the urban stormwater runoff water quality management field.

While I do not know how long it would take the US EPA to conduct the required analyses of the urban stormwater runoff costs and real water quality benefits, it would seem appropriate that taking a few months to accomplish this could in the long term represent a time and resource saving in terms of ultimately correcting the significant technical problems that exist today in regulating urban stormwater runoff.

I recommend the Following:

- \* Urban stormwater dischargers as well as other interested parties should be provided a several-month period during which preliminary assessment of the potential costs and water quality benefits associated with having to meet CTR criteria as standards in the receiving waters for stormwater runoff of concern to the discharger is conducted and reported to US EPA Region 9.
- \* The US EPA should take several months to develop an amended draft CTR that provides a reliable economic analysis and the potential benefits covering the current regulatory approach for regulating chemical constituents in urban stormwater runoff which involves a ratcheting down of BMPs to achieve the ultimate goal of only one exceedance of a water quality standard every three years in the receiving waters for stormwater runoff.
- \* The public could be given a two-month period upon which to review and comment on the adequacy of the US EPA's economic analysis of costs and benefits of achieving the currently mandated goal of using CTR criteria as standards for receiving waters for regulated urban stormwater runoff.

Adoption of this approach will send a clear signal to the public that the US EPA is finally willing to meaningfully address the heart of the urban wet weather problem. With the Agency for the first time reliably developing information on costs and true water quality benefits, the public, Congress, regulators and the regulated will begin to understand the need to change how urban and highway stormwater runoff is regulated to protect the designated beneficial uses of waterbodies without significant unnecessary expenditures for chemical constituent control.

If you have questions on these comments, please contact me. I hope that those who control US EPA Region 9 activities associated with CTR development will address the highly significant deficiencies that exist now in how US EPA Region 9 and US EPA headquarters developed the draft CTR relative to urban stormwater runoff water quality issues. If I can be of assistance in this matter, please contact me.

Response to: CTRE-002-005

EPA did not include benefits or costs of controlling nonpoint sources or storm water dischargers in its estimates of benefits and costs of the CTR. EPA believes that the final rule will not have a direct effect on sources not permitted under the NPDES program (e.g., nonpoint sources) or NPDES sources not typically subject to numeric water quality-based effluent limits (e.g., wet weather discharges). Any potential indirect effect on nonpoint sources and wet weather discharges, such as runoff from farms, urban areas, and abandoned mines, and contaminated sediment, is unknown at this time. Many of the programs developed to control nonpoint sources and wet weather discharges are already in place. Costs due to these programs have already been incurred or will soon be incurred owing to existing federal, State, and local environmental programs.

EPA also acknowledges that nonpoint sources and wet weather discharges are technically difficult to model and evaluate costs because they are intermittent and highly variable. Nonpoint source and wet weather discharges also occur under different hydrologic or climatic conditions than continuous

discharges from industrial and municipal facilities, which are evaluated under critical low flow or drought conditions. Thus, evaluating agricultural nonpoint source discharges and storm water discharges and their effects on the environment is highly site-specific and data intensive.

See also response to CTR-040-004.

For analysis of the final CTR, EPA updated its Economic Analysis to reflect the most recent data and information for each sample facility and also increased the sample size for minor facilities. Based on this revised analysis, EPA estimated that minor POTWs will incur costs of approximately \$5,000 per facility per year under the low cost scenario and \$7,800 per facility per year under the high cost scenario. See also response to CTR-058-018.

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Comment ID: CTRE-003-001a  
Comment Author: Bay Planning Coalition  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/09/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES J  
R

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Comment: The Bay Planning Coalition represents approximately 200 maritime industry, shoreline businesses, local governments and Bay users along the S.F. Bay shoreline and is most significantly affected by the proposed California Toxics Rule. One of our primary interests is the economic analysis which under the EPA's model estimates a range of annual costs of \$14.9 to \$86.6 million.

We believe the annual costs for implementation of the Rule statewide exceed the EPA estimate range. We are particularly concerned because it appears that the economic impact analysis did not include the costs of compliance for the NPDES stormwater permit applicants. In order for us to provide EPA with sufficient detail on our economic analysis and cost projection as well as the impact of the Rule on small business under the Regulatory Flexibility Act, we request an extension of time to respond. A 30-day extension from September 26 to October 27, 1997 would be acceptable. Thank you so much for your consideration.

Response to: CTRE-003-001a

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001. In response to the comment concerning the Regulatory Flexibility Act, the proposed CTR did not itself establish any requirements that were applicable to small entities, and thus, the EPA Administrator certified that the proposed rule would not have a significant economic impact on a substantial number of small entities. The final CTR likewise did not establish any requirements that were applicable to small entities and thus, the EPA Administrator certified that the regulation would not have a significant economic impact on a substantial number of small entities. Thus, no initial regulatory flexibility analysis was conducted.

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Comment ID: CTRE-003-001b  
Comment Author: Bay Planning Coalition  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/09/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES B  
R

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Comment: The Bay Planning Coalition represents approximately 200 maritime industry, shoreline businesses, local governments and Bay users along the S.F. Bay shoreline and is most significantly affected by the proposed California Toxics Rule. One of our primary interests is the economic analysis which under the EPA's model estimates a range of annual costs of \$14.9 to \$86.6 million.

We believe the annual costs for implementation of the Rule statewide exceed the EPA estimate range. We are particularly concerned because it appears that the economic impact analysis did not include the costs of compliance for the NPDES stormwater permit applicants. In order for us to provide EPA with sufficient detail on our economic analysis and cost projection as well as the impact of the Rule on small business under the Regulatory Flexibility Act, we request an extension of time to respond. A 30-day extension from September 26 to October 27, 1997 would be acceptable. Thank you so much for your consideration.

Response to: CTRE-003-001b

EPA's EA, which uses many conservative costing assumptions, indicates that the cost of the State implementing water quality standards based on the proposed criteria in the CTR is likely to be below \$100 million per year. Benefits are also estimated to be below \$100 million per year. These estimates indicate that the action is not "significant" under E.O. 12866, under the provision concerning annual effects on the economy.

Criteria, by themselves, do not directly impose economic impacts. Criteria are one of three parts of a water quality standard. A water quality standard is comprised of: a criterion, a designated use, and an antidegradation requirement. The CTR promulgates criteria for priority toxic pollutants. When these criteria are combined with State adopted designated uses and antidegradation requirements, water quality standards will be created. When the State implements these water quality standards, costs may be imposed. However, in the spirit of the intent of E.O. 12866, EPA prepared the EA which looks at the costs and benefits of the State's implementation of the resulting water quality standards based on the CTR criteria into the NPDES permit program.

The Unfunded Mandates Reform Act of 1995 (UMRA) in general requires federal agencies to assess the effects of their regulatory actions on State and local governments, and on the private sector. The agency must prepare a written statement including a cost-benefit analysis for actions with a "federal mandate" that may result in expenditures to State and local governments, in the aggregate, or to the private sector of \$100 million or more in any one year. The CTR does not contain any federal mandate that may result in expenditures by State and local governments, or the private sector, of \$100 million or more in any one

year. The CTR imposes no direct enforceable duties on the State, local or private sector; rather the rule promulgates water quality criteria which, when combined with State-adopted designated uses and antidegradation requirements, will create water quality standards. The CTR does not directly regulate or affect any entity and therefore is not subject to the requirements of UMRA.

The Regulatory Flexibility Act in general requires federal agencies to describe the impact of their regulatory actions on small entities as part of the rulemaking. If the Administrator certifies that the action will not have a significant economic impact on a substantial number small entities, the agency is not required to prepare the analysis. The Administrator certified in the proposed rule, and is certifying again today that the rule will not have a significant economic impact on a substantial number of small entities. EPA's promulgation of water quality criteria will assist the State in establishing water quality standards. The State will, in turn, implement the resulting water quality standards in its water quality regulatory programs such as the NPDES permit program. The State has discretion in deciding how to meet the water quality standards and in developing discharge limits as needed to meet those standards. While the State's implementation of water quality standards based on federally-promulgated criteria may result in new or revised discharge limits being placed on small entities, the criteria or standards themselves do not apply to any discharger, including small entities. Thus, EPA's action today does not impose any of these as yet unknown requirements on small entities.

See also response to CTR-044-045.

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Comment ID: CTRE-004-001a

Comment Author: Victor Valley Wastewater Auth.

Document Type:

State of Origin: CA

Represented Org:

Document Date: 09/11/97

Subject Matter Code: B Comment Period

References:

Attachments? N

CROSS REFERENCES G-08

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Comment: The Victor Valley Wastewater Reclamation Authority (VWVRA) respectfully requests that the comment period deadline be extended for the California Toxics Rule (CTR). The current comment period deadline is September 26, 1997. We request that the latter deadline be extended for at least 60 days so that we can fully evaluate the potential impact on VWVRA

The reasons for our request are as follows:

1. VWVRA discharges to the Mojave River, which is considered by the Lahontan RWQCB as an impaired waterway. Although portions of the Mojave exhibit year-round surface flow, the River directly above VWVRA does not exhibit consistent surface flow. However, the Lahontan RWQCB considers the Mojave an underflow stream, which is often considered as surface flow. Whether an underflow stream would be considered under the CTR for receiving stream dilution has yet to be determined;

2. It is difficult if not impossible to evaluate the impacts of a proposed regulation without considering the mechanism by which it will be implemented. The SWRCB is not expected to release the

implementation plan until September 12, 1997. Therefore, VVWRA takes exception to the imposition of a regulation with an undefined implementation plan;

3. Because of the latter unknowns and the complexity of the regulation V has not had sufficient time to evaluate the potential economic impacts, if any, of the proposed regulation.

Response to: CTRE-004-001a

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRE-005-001

Comment Author: Western States Petroleum Assoc

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/10/97

Subject Matter Code: B Comment Period

References:

Attachments? N

CROSS REFERENCES

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Comment: The Western States Petroleum Association (WSPA) is a trade association, which represents a majority of the petroleum-related interests in the western United States. These interests include production, transportation, refining, and marketing of petroleum and petroleum based products. WSPA appreciates to opportunity to provide comments on the proposed rule regarding "Water Quality Criteria For Toxic Pollutants For California." Upon review, it has become clear that the limited time available for preparing meaningful comments is too short. This is a significant and complex rule development, which will impact our operations. We therefore, would like to request an additional 30 days to review the proposal and provide written comments. These concerns over timing are worsened by the anticipated September 12, 1997, release of the State of California's proposed implementation policies for the criteria. Due to their inter-relationship, it is important that interested parties be given the opportunity to review both of these proposals together.

Response to: CTRE-005-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRE-006-001

Comment Author: County of Los Angeles

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 08/19/97

Subject Matter Code: B Comment Period

References:

Attachments? N

**CROSS REFERENCES**

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Comment: I am writing on behalf of the Sanitation Districts of Los Angeles County regarding the public comment period for the Proposed Rule Regarding Water Quality Criteria for Toxic Pollutants for California, which was published in the Federal Register on August 5, 1997. As noted in the Federal Register notice, the public comment period is scheduled to close on September 26, 1997. The Sanitation Districts requests that EPA extend the comment period for 30 days from that date.

We have reviewed the draft rule, and believe that its importance and complexity warrant an in-depth review, including an assessment of the rule's impacts on the seven water reclamation plants owned and operated by the Districts that will be affected by the rule. In addition, we believe that an extra 30 days is necessary to enable us to review the State of California's anticipated proposal of implementation policies for the criteria, which is not expected to be released until mid-September. As has been discussed with your staff and State Water Resources Control Board staff, we believe that a sufficient overlapping review period is necessary to fully implement the collaborative process embarked upon by EPA and the SWRCB last year.

Response to: CTRE-006-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRE-007-001

Comment Author: SCAP

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 08/11/97

Subject Matter Code: B Comment Period

References:

Attachments? N

**CROSS REFERENCES**

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Comment: I am writing on behalf of the Souther California Alliance of Publically Owned Treatment Works (SCAP) to request an extension of the comment period for the proposed rule regarding water quality criteria for toxic pollutants for California (the California Toxics Rule) for 30 days. SCAP is a non-profit organization formed in 1992 to provide a common voice for the Southern California community of municipal n wastewater treatment agencies in expressing our interest in promotng reasonable regulations that are in the public's best interest. We have forty-six member agencies serving a combined population of over 10 million people.

CAP has reviewed the draft rule and believes that an extension of the comment period for an additional 30 days is warranted to ensure that sufficient time is available to review the changes made in the water quality criteria in the CTR from the National Toxics Rule, which was promulgated several years ago. In addition, the extension is necessary to provide sufficient overlap for a meaningful review and comparison of the proposed regulations and the State Water Resources Control Board's draft policies regarding the implementation of the CTR. We understand that the State plans to release proposed policies and draft

Functional Equivalent Document on September 12, 1997. We believe that our comments on the CTR will be more informed if there is an adequate opportunity to review the State's proposal before the close of the federal comment period. Therefore, we request that the comment period be extended until at least October 27, 1997.

Response to: CTRE-007-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001. In response to the comment that additional time was necessary to review the changes in criteria values from the National Toxics Rule (NTR), EPA provided a table in the preamble to the proposed CTR which outlined all the changes in aquatic life numbers from the NTR. The text that followed explained the changes in detail. EPA believes that the comment period was sufficient time within which to review and comment on these changes from the NTR.

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Comment ID: CTRE-008-001  
Comment Author: Cupertino Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 08/18/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: The Cupertino Sanitary District is a wastewater collection agency which transports approximately 4.5 MGD of wastewater to the San Jose/Santa Clara Water Pollution Control Plant. The San Jose/Santa Clara Water Pollution Control Plant is a regional treatment facility capable of treating 167 MGD. The staff at the plant have begun a review of the draft rule for toxic pollutants for California, as published August 5, 1997, in the Federal Register. The complexity of the document, however, and the need to compare our plant's assessment with other wastewater agencies, leads me to ask for a 30-day extension of the comment period. This additional time will allow for a concurrent evaluation of the state's implementation policies for the numeric criteria.

Thank you very much for considering this request.

Response to: CTRE-008-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRE-009-001  
Comment Author: Dublin San Ramon Services Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 08/15/97

Subject Matter Code: B Comment Period

References:

Attachments? N

CROSS REFERENCES

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Comment: Dublin San Ramon Services District treats wastewater from a population of 100,000 residents of the East San Francisco Bay area. We have begun our review of the draft rule for toxic pollutants for California as published August 5, 1997, in the Federal Register. The complexity of the document, its importance to our future operation and our need to compare our assessment with other wastewater agencies leads me to ask for an extension of the comment period through say October 26, 1997, a 30 day extension. This would allow us to concurrently evaluate the state's implementation policies for the numeric criteria.

Thank you for considering this request.

Response to: CTRE-009-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRE-010-001

Comment Author: Moulton Niguel Water District

Document Type: Water District

State of Origin: CA

Represented Org:

Document Date: 08/15/97

Subject Matter Code: B Comment Period

References:

Attachments? N

CROSS REFERENCES

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Comment: The Moulton Niguel Water District is aware that the California Toxics Rule (CTR) has been published in the Federal Register and the comment period for it is scheduled to close on September 26, 1997. Public hearings have also been scheduled for September 17 and 18 in San Francisco and Los Angeles.

We are concerned with the time allowed to review this complex issue and are requesting your office to extend the review period by 30 days. We are aware that a similar request has been made by the California Association of Sanitation Agencies (CASA) and Tri-TAC and we also support their position.

Response to: CTRE-010-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001 and CTR-035-001.

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Comment ID: CTRE-011-001

Comment Author: County of Orange  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 08/15/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: The County Sanitation Districts of Orange County, California (Districts) operates the third largest wastewater agency west of the Mississippi River, having the responsibility for collecting and safely treating wastewater for 2.1 million residents and businesses in metropolitan Orange County. We are members of the California Association of Sanitation Agencies (CASA) and Tri-TAC (an advisory group for CASA, California Water Environment Association, and the League of California Cities), and through these groups we have met with EPA staff to discuss the development of the proposed rule.

We appreciate the Agency's efforts to inform the regulated community about the pending regulation, however, we believe the complexity of the draft "California Toxics Rule" that was published in the Federal Register on August 5, 1997 and the accompanying economic impact analysis warrant an extension of the comment period for an additional 30 days. We are making this request to ensure that sufficient time is available to the public to coordinate the review of the "California Toxics Rule" with an evaluation of the State of California's anticipated proposal of implementation policies for the criteria, which is scheduled to be released September 12, 1997. This overlapping comment period will provide the interested parties the opportunity to understand the contents and implications of the regulations, which are being partially adopted by EPA and partially developed by the State in order to achieve full compliance with Section 303(c)(2)(b) of the Clean Water Act.

Should you have any questions regarding this request for extension, please call Nancy J. Wheatley, Director of Technical Services, or me at (714) 962-2411.

Response to: CTRE-011-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRE-012-001  
Comment Author: CA Council Env & Econ Balance  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/09/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: The California Council for Environmental and Economic Balance (CCEEB) has been advised

that the State Water Resources Control Board (SWRCB) staff is planning to release the proposed State Implementation Policies on September 12, 1997. Since the release of these policies may indeed have an effect on the proposed California Toxics Rule, the Council is concerned that there may not be sufficient time provided for comment prior to the release of these policies.

At this time, we would like to request that EPA provide a comment period of the draft California Toxics Rule sufficient to ensure that adequate time is given prior to release of the State Implementation Policies.

Furthermore, we trust that EPA and SWRCB will be flexible in the promulgation process in order that everyone's scheduling and review needs can be met.

Response to: CTRE-012-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRE-013-001  
Comment Author: Calaveras County Water Dist.  
Document Type: Water District  
State of Origin: CA  
Represented Org:  
Document Date: 08/15/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Concern has been raised by various agencies in California (i.e., Tri-TAC and CASA) about the above-referenced proposed Rule which could have a sizable monetary impact on California agencies involved with wastewater treatment. Considerable more time is required to thoroughly study the proposed Rule and its economic impacts on California agencies.

As an agency involved with wastewater treatment, I hereby request that at least a 30 day extension of time be allowed for further review and comment.

Response to: CTRE-013-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRE-014-001  
Comment Author: City of Riverside  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/03/97

Subject Matter Code: B Comment Period

References:

Attachments? N

CROSS REFERENCES

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Comment: The City of Riverside is requesting a 30 day extension in the comment period for the proposed California Toxics Rule. As the City was used as a case study for the economic analysis we feel that it is our responsibility to review these documents in some detail. Further, revelations regarding the status of the Santa Ana River Use Attainability Analysis and the site specific objectives that came out of that study, require considerable evaluation and consensus building within the watershed prior to comment.

Thank you for your consideration of this matter. Should you agree with our request, we would appreciate a notice of your decision.

Response to: CTRE-014-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRE-015-001

Comment Author: Oro Loma Sanitary District

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 08/30/97

Subject Matter Code: B Comment Period

References:

Attachments? N

CROSS REFERENCES

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Comment: Oro Loma Sanitary District is a P.O.T.W. located in Alameda County between San Leandro and Hayward. We are also a member of the California Association of Sanitation Agencies (CASA) which actively monitors legislation and regulatory rule making.

We have reviewed the draft rule proposing water quality criteria for toxic pollutants for California ("California Toxics Rule" or "CTR") that was published in the Federal Register on August 5, 1997 and believe that the breadth and complexity of the draft CTR and the accompanying economic impact analysis warrant an extension of the comment period for an additional 30 days.

We are making this request to ensure that sufficient time is available to the public to coordinate the review of the CTR with an evaluation of the State of California's anticipated proposal of implementation policies for the criteria, which is scheduled to be released September 12, 1997. Thank you for your consideration.

Response to: CTRE-015-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRE-016-001  
Comment Author: League of California Cities  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/03/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: On behalf of the League of California Cities, I am writing to respectfully request a 30 day extension to the comment period on the draft rule proposing water criteria for toxic pollutants for California ("California Toxics Rule" or "CTR"). That rule was published in the Federal Register on August 5 1997.

The League agrees with others who have requested an extension of the comment period that the complexity and breadth of the draft CTR, and the accompanying economic impact analysis, warrant additional time for comment. In addition, it is necessary to ensure that sufficient time is available to the public to coordinate the review of the CTR with an evaluation of the State of California's anticipated proposal of implementation policies for the criteria, which is scheduled to be released September 12, 1997. We believe that the quality of the public comment submitted will benefit by providing an overlapping time period in which interested parties can evaluate both sets of proposals.

For these reasons, the League of California Cities respectfully requests an extension of the public comment period for the draft CTR. Thank you for your careful consideration of our request.

Response to: CTRE-016-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRE-017-001  
Comment Author: East Bay Municipal Util. Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 08/28/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: We have reviewed the draft rule proposing water quality criteria for toxic pollutants for California ("California Toxics Rule" or "CTR") that was published in the Federal Register on August 5, 1997 and believe that the breadth and complexity of the draft CTR and the accompanying economic

impact analysis warrant an extension of the comment period for an additional 30 days. In particular, we are making this request to ensure that sufficient time is available to the public to coordinate the review of the CTR with an evaluation of the State of California's anticipated proposal of implementation policies for the criteria, which is scheduled to be released September 12, 1997. Providing overlapping comment periods will allow interested parties to understand the full contents and implications of the regulations, which are being partially adopted by the EPA and partially developed by the State in order to achieve full compliance with Section 303(c)(2)(b) of the Clean Water Act.

I would appreciate if you would notify me at the above address of your decision. Thank you very much for your consideration of our request.

Response to: CTRE-017-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRE-018-001  
Comment Author: BASMAA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/03/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: On behalf of the Bay Area Stormwater Management Agencies Association (BASMAA), I am writing to respectfully request an extension of the comment period for the California Toxics Rule for an additional 30 days.

The Bay Area Stormwater Management Agencies Association is a consortium of the seven municipal storm water programs in the San Francisco Bay Area representing 89 agencies, including 78 cities and 5 counties. BASMAA is focused on regional challenges and opportunities to improving the quality of urban runoff to the San Francisco Bay and Delta.

BASMAA is working with its member agencies and the California Stormwater Quality Task Force to expedite its review of the proposed CTR. However, the completion of our review is complicated by the planned release on September 12 of the State Board's draft policy for implementing the numeric criteria included in the CTR. Providing more overlapping comment periods for the CTR and the implementation policy will facilitate more coordination between storm water programs on their review and comments, likely saving a significant amount of time for both USEPA and State Board staff in the long run.

Thank you for consideration of our request, and for notifying us of your decision.

Response to: CTRE-018-001

In response to the comment requesting an extension of the comment period, please refer to response to

CTR-001-001.

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Comment ID: CTRE-019-001  
Comment Author: Crockett-Valona Sanitary Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 08/27/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: I am writing in support of Tri-TAC and the California Association of Sanitation Agencies (CASA), which are California-based organizations comprised of members from public agencies responsible for wastewater treatment.

The Crockett-Valona sanitary District is attempting to obtain a copy of the California Toxics Rule so that we may properly review and comment on this important regulatory document. To do so, and with the belief that the breadth and complexity of the draft CTR and the accompanying economic impact analysis alone warrant an extension of the comment period, we request an extension of 30 days.

In particular, we are making this request to ensure that sufficient time is available to CASA and Tri-TAC to coordinate the review of the CTR with an evaluation of the State of California's anticipated proposal of implementation policies for the criteria, which is scheduled to be released September 12. Providing overlapping comment periods will allow interested parties to understand the full contents and implications of the regulations, which are being partially adopted by EPA and partially developed by the State in order to achieve full compliance with Section 303(c)(2)(b) of the Clean Water Act.

Response to: CTRE-019-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRE-020-001  
Comment Author: Mt. View Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/02/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: I am writing on behalf of the Mt. View Sanitary District, a publicly owned treatment works

located in Martinez, California. We have reviewed the draft rule proposing water quality criteria for toxic pollutants for California ("California Toxics Rule" or "CTR") that was published in the Federal Register on August 5, 1997, and believe that the breadth and complexity of the draft CTR and the accompanying economic impact analysis warrant an extension of the comment period for an additional 30 days. In particular, we are making this request to ensure that sufficient time is available to the public to coordinate the review of the CTR with an evaluation of the State of California's anticipated proposal of implementation policies for the criteria, which is scheduled to be released September 12, 1997. Providing overlapping comment periods will allow interested parties to understand the full contents and implications of the regulations, which are being partially adopted by EPA and partially developed by the State in order to achieve full compliance with Section 303(c)(2)(b) of the Clean Water Act.

I would appreciate it if you would notify me at the address on this letterhead of your decision. Thank you very much for your consideration of our request.

Response to: CTRE-020-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRE-021-001  
Comment Author: Novato Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 08/18/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: The Novato Sanitary District (District) has reviewed the draft rule proposing water quality criteria for toxic pollutants for California ("California Toxics Rule" or "CTR") that was published in the Federal Register on August 5, 1997. The District believes that the breadth and complexity of the draft CTR and the accompanying economic impact analysis warrant an extension of the comment period for an additional 30 days. In particular, we are making this request to ensure that sufficient time is available for the public to coordinate the review of the CTR with the State of California's anticipated proposal of implementation policies for the criteria, which is scheduled to be released September 12, 1997. Providing overlapping comment periods will allow interested parties to understand the full contents and implications of the regulations, which are being partially adopted by EPA and partially developed by the State in order to achieve full compliance with Section 303(c)(2)(b) of the Clean Water Act.

Thank you very much for your consideration of our request.

Response to: CTRE-021-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRE-022-001  
Comment Author: West County Wastewater Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 08/20/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: On behalf of the Board of Directors of the West County Wastewater District, a public agency, it is requested that the public comment period for the draft California Toxics Rule (CTR) be extended for an additional 30 days. This request is made in order to allow for a meaningful review by California Association of Sanitation Agencies and Tri-TAC, our public agencies' representatives.

Thank you for considering our request.

Response to: CTRE-022-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001 and CTR-035-001.

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Comment ID: CTRE-023-001a  
Comment Author: Bay Area Dischargers Assoc.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 07/17/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES V

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Comment: The Bay Area Dischargers Association (BADA) is comprised of 10 POTWs in the San Francisco Bay Area. Our five largest charter members include the Central Contra Costa Sanitary District, City and County of San Francisco, City of San Jose, East Bay Dischargers Authority, and East Bay Municipal Utility District. Together BADA agencies provide wastewater service to most of the Bay Area.

BADA requests that the U.S. EPA allow at least 90 days for public review of the proposed California Toxics Rule (CTR). We understand the proposed rule will be published in the Federal Register toward the end of this month. The reasons for our request are as follows:

1. The CTR could have a significant economic impact on California municipalities and businesses. In

order to properly assess the impacts of the proposed CTR standards, it is necessary to know how the standards are to be implemented. Yet, the proposed implementation provisions being developed by the State Water Resources Control Board will not be available until September 12, 1997. The several days of overlap are insufficient for California municipalities and businesses to assess the economic and environmental impacts of the proposed standards. At least 45 days of overlap is needed.

2. The U.S. EPA has spent more than three years developing the proposed CTR, in part because of its importance. It is therefore, reasonable to provide at least 90 days for the public to review and comment on the rule, especially considering its potential economic impact on the State and the unavailability of the implementation provisions

3. It is recommended that the EPA work closely with the SWRCB during the review period to define the implementation policy and procedures that the EPA would be likely to approve.

For these reasons, BADA urges you to issue a notice extending the review period from 45 days to 90 days.

Response to: CTRE-023-001a

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRE-024-001

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 07/17/97

Subject Matter Code: B Comment Period

References:

Attachments? N

**CROSS REFERENCES**

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Comment: The Sacramento Regional County Sanitation District (District) understands that the proposed California Toxics Rule (CTR) will be published in the Federal Register at the end of this month. The District also understands that there will be a 45-day period set for public review and comment on this document. The District strongly requests that the period for review and comment be extended to a minimum of 90 days. The reasons for our request are as follows:

1. Previous studies have shown that the specific numeric values set for water quality criteria on metals such as mercury could have a major economic impact on the District. The key conclusion of these studies is that removal of mercury from the District's effluent could cost, more than \$1 billion, but would only result in removing a very small percentage of the mercury being discharged to the Sacramento River from unregulated nonpoint sources in the watershed.

2. In addition, the CTR could have a significant economic impact on many California municipalities and businesses without providing any measurable water quality benefits. This statement is based on in-state studies of the attainability of the U.S. EPA recommended water quality criteria that will be incorporated

into the CTR.

3. The District believes it is necessary to know how the standards are to be implemented, in order to properly assess the impacts of the proposed CTR standards. However, the proposed implementation provisions being developed by the State Water Resources Control Board (SWRCB) will not be available until mid-September, 1997. The few days of possible overlap with a 45-day comment period are insufficient for California municipalities and businesses to assess the economic and environmental impacts of the proposed standards. In our opinion, at least 45 days of overlap are needed.

4. The U.S. EPA has spent more than three years developing the proposed CTR, in part because of its importance. The District believes it is unreasonable to provide only 45 days for the public review and comment on such an important rule, especially in light of both its significant potential economic impacts on the entire State and the unavailability of the SWRCB implementation provisions.

For these reasons, the District urges you to issue a notice extending the review period from 45 days to 90 days.

Response to: CTRE-024-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRE-025-001  
Comment Author: East Bay Dischargers Authority  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 07/16/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: The East Bay Dischargers Authority is a joint powers public agency providing wastewater treatment and disposal services for approximately 600,000 people in southern and eastern Alameda County, California. The Authority's members include City of San Leandro, City of Hayward, Oro Loma Sanitary District, Castro Valley Sanitary District, and Union Sanitary District.

The Authority and its member agencies have been following the process of U.S. EPA's development of the California Toxics Rule (CTR) and the State Water Resources Control Board's effort to develop implementation provisions for the CTR. We have been informed that the CTR will be published in the Federal Register late this month, and we are very dismayed by reports that there will only be a 45 day comment period. In addition, the comment period may not overlap with the release of the State Board's implementation provisions.

The Authority and its member agencies request that U.S. EPA allow at least 90 days, and preferably 120 days, for public review of the CTR. The reasons for our request include the following:

1. U.S. EPA has taken more than three years to develop the proposed CTR. It is unreasonable to provide only 45 days for the public to review and comment on the rule, especially considering the fact that the rule and its implementation could have significant economic consequences on the Authority and its member agencies.
2. In order to properly analyze the impacts of the CTR, it is imperative that the State Board's implementation provisions be examined concurrently. Yet the proposed release date of the implementation provisions is September 12, 1997. With a 45 day comment period, there is essentially no overlap, which is unacceptable from a public policy perspective.
3. An economic analysis of the CTR and the implementation provisions must be conducted concurrently. Such an analysis, by the parties most effected, must be allowed adequate time to be both accurate and meaningful. You will recall that the State Plans were invalidated in part because of a poor economic analysis by the State Board. We are skeptical that U.S. EPA and the State Board will have performed the necessary economic analyses and require adequate time to perform them ourselves.

The Authority and its member agencies believe that it is in the best interests of U.S. EPA, the State Board, the regulated community, and the public that the comment period for the CTR be extended to at least 90 days. Your consideration of this request is appreciated. Please feel free to contact me if you have any questions or need additional information.

Response to: CTRE-025-001

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRH-001-002  
Comment Author: Robert Hale  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: CA Stormwater Task Force  
Document Date: 09/17/97  
Subject Matter Code: B Comment Period  
References:

Attachments? N

**CROSS REFERENCES**

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Comment: That gets me to my next point. We got this thing about two weeks ago here. The task force is struggling on this. Our key people have been working on it around the clock for the last week. I'm looking at Mac Walker; he's been doing that. We really are very pressed by the shortage of the time we've got here. And other people have been asking for this, too.

I think it's only reasonable that we would get more time to look at this, time to perform economic analysis of the impact of this, and have a chance to do a little noodling. Forty-five days would be an absolute minimum extension on this thing.

We've waited a long time to get this. It wouldn't hurt us to extend it just that much longer to be able to look at the issues of this thing, rather than getting the numbers off the back of somebody's envelope.

That's really the last point.

Response to: CTRH-001-002

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRH-001-019a  
Comment Author: Phil Bobel  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Tri-TAC  
Document Date: 09/17/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES V

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Comment: MR. BOBEL: Thank you, Steve.

I'm Phil Bobel. I represent Tri-TAC, an organization of sewage treatment plants, the POTWs as we call them, made up of three groups: CASA, the California Association of Sanitation Agencies; the League of Cities; and the California Water Environment Association.

And later this afternoon you're going to hear from Bob Reid who represents CASA. And our comments are essentially the same, so I'm going to not repeat and just summarize a couple things.

I was even going to say you guys had done a really good job. But in light of all the previous speakers, I deleted that part of my testimony.

I will try to be positive and constructive. I promised to do that. In describing the nature of my comments on your little form, I put that I would be constructive. So I will do that.

The first point I'd like to make is positive. I think that the coordination you're doing with the state is great. The fact that we're going to have coordination with the feds focusing on the numeric criteria, the state focus on the implementation policy, working to come up with a system that will serve us all, is a good way to use resources of both organizations.

I applaud you for that and hope you will be able to pull that off. This is different than what we've tried to do before, and it will require some creativity.

One specific thing that I think would help if we did, is to allow all of us to see both what the state is proposing and what the feds are proposing, so we need a little more time in this comment period.

We've appealed before and been told no, but I still put that on the table as a good idea for the ultimate goal of a coordinated, consolidated, as much as possible, federal and EPA approach to this thing.

If you don't do that, or even if you do do that, I think it's going to require some other kinds of creativity as

we move out of -- away from your hearing and toward a final rule.

And in that period of time, I would ask you and the state to sit down together and see what kind of a process you can use to take the comments that you'll hear from your federal regs and the comments you hear on the state plan, and put those together, hear more back from folks that are interested and come up with a package that makes sense.

You're going to need some way of going back to interested parties over a longer period of time -- communicating, coordinating -- and I would refer you to the process that the state used on their task force approach and suggest that we need something like that as we move to the future. Creativity is going to be needed.

Response to: CTRH-001-019a

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRH-001-0211a  
Comment Author: Julio Guerra  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: City of Merced  
Document Date: 09/17/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES E-01d

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Comment: MR. GUERRA: My name is Julio Guerra with the City of Merced. And in my capacity with the City of Merced, I function as NPDES compliance coordinator and have to directly deal with these issues .

I did serve on the Inland Surface Waters Task force as a POTW representative to the agricultural waters subgroup, and so I am somewhat familiar with the issues at hand.

The first thing I would like to say is that the high-end cost estimated in the economic analysis done in the case study that was part of the California Toxics Rule background work was \$4 million a year, \$13 million capital expense. Characterized in the toxics rule is that the plants, of which Merced was one, was deemed to be representative of the proportionate facilities located within the different California regional water control boards.

Now, if we are representative, then you could assume that a plant such as Merced without a heavy industrial base would be typical of a lot of plants in the state, which would lead to the conclusion that perhaps the \$87 million per year figure was a projection that did not match what could actually happen.

The city of Merced discharges to an ephemeral stream. The effluent is dominated at certain times of year by agricultural waste water, and stormwater-dominated at other times of the year. We provide the only treated water to that stream.

The ephemeral stream is dammed about a half mile further down by a farmer who uses all of the -- as much of the water as he can. He has water rights to about 15 million gallons a day. We can only discharge between 4 and 5 million gallons a day to that stream.

Our operating budget is between 2 and \$3 million a year. If the assumptions were all correct, and we had to -- had to expend an additional \$4 million a year to meet these standards, we would be spending an awful lot of money to take care of our neighbor.

The other side of that issue is that my cursory review of the economic impact work there leads me to observe that certain interpretations of our -- the data were not properly applied. And I would be most willing to work to get a more accurate picture of it to the EPA people.

And it would really take longer than the remaining comment period to do that, and so I would also add my voice to those asking for extension of the comment period.

Response to: CTRH-001-0211a

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRH-001-0211b  
Comment Author: Julio Guerra  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: City of Merced  
Document Date: 09/17/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES B

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And it would really take longer than the remaining comment period to do that, and so I would also add my voice to those asking for extension of the comment period.

Response to: CTRH-001-0211b

See response to CTR-021-008.

EPA acknowledges that evaluating the impact of each individual direct discharger to inland waters, enclosed bays, and estuaries within the State of California would be the most accurate method to determine impacts of the CTR. However, the resources that would be required to perform such an analysis for each of the over 1,241 direct dischargers are beyond the resources typically available for development of environmental regulations.

In developing the methodology for estimating the compliance costs for the proposed CTR, time and budget constraints limited EPA's costing review to a subset of the regulated community. However, EPA believes that the sample selected adequately represents the various types of direct dischargers in the State.

EPA acknowledges that minor dischargers were under sampled as compared to the major dischargers. However, by definition, under the NPDES permit program, facilities classified as minor would not be expected to discharge toxic pollutants in toxic amounts. Since the CTR addresses only toxic pollutants, EPA would not expect significant, if any, impact to minor dischargers.

In analyses of the final CTR, EPA increased the sample of minors by five randomly selected facilities to bolster its analysis. EPA estimated costs of \$872 per minor facility under the low scenario, and \$2,682 per minor facility under the high scenario due to the CTR.

EPA also replaced Silvergate with South Bay in the sample in order to improve the estimate of the impacts of the CTR on the electric utility industry. The draft CTR cost analysis included costs for Silvergate, but the facility had closed and the data available was over five years old. The addition of South Bay, an electric utility facility with no costs, to the sample results in a more realistic, lower overall cost estimate for the electric utility industry.

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Comment ID: CTRH-001-035  
Comment Author: Dave Brent  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: CA Water Qual. Task Force  
Document Date: 09/17/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: And finally, you've heard it brought up before, but I'd like to request an extension of an additional 90 days to provide comments so that we can compare this rule with the state implementing rules which are the Inland Surface waters Plan and the Enclosed Bays and Estuaries state water plan.

Thank you.

Response to: CTRH-001-035

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRH-001-036  
Comment Author: Robert Reid  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: CASA  
Document Date: 09/17/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: I'm Robert Reid, manager of the Sanitation District of Santa Clara County. I'm here today representing CASA and to present CASA's comments.

CASA is the California Association of Sanitation Agencies and represents more than 80 publicly owned treatment works in the State of California, I'll keep my comments brief as CASA will be submitting detailed written comments prior to the close of the public comment period.

We have four main issues to which we would like to draw your attention today.

First, as has been said many times over today, because the state's Draft implementation Policy was issued only last Friday, the comment period for this proposed rule should be extended by 45 days, or at least 30 days, to allow adequate time for analysis of the proposed rule as it will be implemented by the state.

Our comments are going to focus on the contents of the CTR only and its potential impacts, without consideration for the state's implementation policy and how those may change those impacts, because we have not yet had time to really evaluate the draft implementation policy.

Response to: CTRH-001-036

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRH-001-043  
Comment Author: Charles Batts  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Bay Area Dischargers Assc  
Document Date: 09/17/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: MR. BATTS: Thank you.

I'm Charles Batts. I am Plant Operations Department Manager at the Central Contra Costa Sanitary District, a publicly owned treatment works, and I'm here today as chairman for the Bay Area Dischargers Association, a group of the five largest municipal dischargers to the San Francisco Bay, serving approximately three and a half million people. Our goal is only to protect the environment and to provide cost-effective service for our rate payers.

We are very appreciative of the work done by EPA on the California Toxics Rule. I hope my comments today will be of help in developing regulations that will continue to protect the waters of the state, and that everyone can live with.

First, I think I need to get in line and ask as everyone else has and as I asked earlier by letter, for the period of comment to be extended to 90 days.

There is no reason to rush the final version of these rules. The impact of state plans which are already out will not be greatly impacted beyond the extent they already have been. This will allow the state plan to reflect the changes and comments or modifications that may come out of your toxics rule.

Response to: CTRH-001-043

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRH-001-045a  
Comment Author: Charles Batts  
Document Type: Public Hearing

State of Origin: CA  
Represented Org: Bay Area Dischargers Assc  
Document Date: 09/17/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES G-09

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Comment: We would ask the EPA to extend the comment period to encourage further comments.

We would encourage you to look at actual agencies' calculations, that all translators be reviewed to ensure accuracy, even if special studies are required by individual dischargers.

Response to: CTRH-001-045a

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001. In response to the request that we look at actual translators to ensure accuracy in our economic analysis, the economic analysis for the proposed rule and for the final CTR is a broad-brushed analysis. EPA neither had the time nor resources to look at individual translators for individual pollutants for each of the sample facilities used in its analysis. However, where information was available on a particular pollutant and its translator, EPA reviewed the information and considered its application where appropriate.

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Comment ID: CTRH-001-060a  
Comment Author: Ellen Johnck  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Bay Planning Coalition  
Document Date: 09/17/97  
Subject Matter Code: B Comment Period  
References:  
Attachments? N  
CROSS REFERENCES J-04

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Comment: Secondarily and thirdly -- these two are tied together, the whole -- all our members that comply and have to secure the stormwater permits, we have been looking at how much it would cost us to build facilities to do some kind of end-of-pipe treatment to actually meet some of these numeric criteria for stormwater.

We don't think the economic evaluation that EPA has done is valid. Basically, there are a lot of shortcomings to it, and you have already heard today some of the numbers. The actual amount of money needed to build new facilities is way beyond the \$86 million estimate that you have indicated in your analysis.

And based on this very serious economic evaluation shortcoming, I am recommending that at least a 30-day time limit be provided so that you can hear from the permit applicants regarding the statement to show you what the costs really are, and we'd like some more time to do that.

Those are essentially the substance of my comments today. Thank you.

Response to: CTRH-001-060a

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRH-002-007  
Comment Author: Chris Compton  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: County of Orange  
Document Date: 09/18/97  
Subject Matter Code: B Comment Period

References:

Attachments? N

**CROSS REFERENCES**

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Comment: Conclusion:

In conclusion, we believe that there are significant and fundamental issues associated with the proposed rule that require serious consideration.

We recommend an extension of the public review period for the proposed rule is requested to allow EPA, municipalities, industry, and others to further evaluate the wet weather discharge requirements of the rule and the resulting legal and economic impacts in light of the recently released Inland Surface Waters and Enclosed Bays and Estuaries plans.

Response to: CTRH-002-007

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001. In response to the issue concerning wet weather discharge requirements, the preamble to the proposed CTR had a detailed discussion concerning application of the proposed criteria to wet weather discharges. See the discussion at 62 FR 42186. See also the discussion on wet weather flows in the preamble to the final rule. A complete discussion of wet weather flows and potential economic impacts is also included in this Response to Comments document after the specific comments concerning potential economic impacts from wet weather flows.

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Comment ID: CTRH-002-010  
Comment Author: Lisa Ohlund  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Alliance of So. CA POTWs  
Document Date: 09/18/97  
Subject Matter Code: B Comment Period  
References:

Attachments? N

**CROSS REFERENCES**

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Comment: MS. ONLUND: I'm Lisa Ohlund. I'm an associate with the Southern California Alliance, a Publicly Owned Treatment Works. My business address is 30290 Rancho Viejo Road, San Juan Capistrano, 92675. I am here today representing SCAP. SCAP is comprised of 47 public agencies that provide wastewater treatment services in Southern California. Collectively, our member agencies serve over 16 million residents of Southern California. We appreciate the opportunity to testify on the proposed California Toxics Rule.

Before I make any substantive comments, I would like to reiterate the request that EPA extend or reopen the comment period on this CTR for an additional 30 days. We are still reviewing the proposed rule and its potential impacts on Southern Californians POTWs, and I believe that the number of changes proposed to the national water quality criteria and the extensive documentation that accompanies and explains the rule warrants the extension of the comment period.

In addition, as we noted in our letter requesting an extension, we would also appreciate the opportunity to review the CTR in the context of the State Water Resources Board's draft Implementation Policy which was just released last Friday, which I happen to have a copy here.

We're asking for an extension until at least October 27.

Response to: CTRH-002-010

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRH-002-021a

Comment Author: Ing-Yig Cheng

Document Type: Public Hearing

State of Origin: CA

Represented Org: L.A. Bureau of Sanitation

Document Date: 09/18/97

Subject Matter Code: B Comment Period

References:

Attachments? N

**CROSS REFERENCES V**

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Comment: As you are aware, the California Policy for Implementation of Toxics Standards for Inland Surface Water, Enclosed Bays, and Estuaries of California, the proposed policy, was issued a few days ago. EPA and State essentially had the same objective to establish water quality criteria that are implementable for the water of California. Therefore, it is necessary for regulators and dischargers alike to fully comprehend the consequences of these rules on similar issues but from perhaps a different perspective.

Consequently, we strongly urge EPA to allow for additional 30 days for you and for us to fully review both documents together. We also urge EPA and State to coordinate these two rule-making process to minimize inconsistencies that might otherwise occur, EPA is the final focal point of this concern because

the process of State's obtaining EPA approval of ISWP and EBEP will be greatly enhanced if EPA and State can work together; and without EPA's approval, State's plan will be no good. So I think it will be ideal if CTR and the State's proposed policy can be promulgated simultaneously.

Thank you again for the opportunity to address you.

Response to: CTRH-002-021a

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Comment ID: CTRH-002-027

Comment Author: Fred Jacobsen

Document Type: Public Hearing

State of Origin: CA

Represented Org: San Diego Gas & Electric

Document Date: 09/19/97

Subject Matter Code: B Comment Period

References:

Attachments? N

**CROSS REFERENCES**

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Comment: MR. JACOBSEN: Hi, Fred Jacobsen. I'm here representing San Diego Gas & Electric. My comments, just purely process. Then I would just request that due to the volume of information that relates to the proposed rule and the fact that the State Water Board implementation policy was just released that the comment period be extended on the comment on the CTR rule for at least a minimum of 30 days. Thank you.

Response to: CTRH-002-027

In response to the comment requesting an extension of the comment period, please refer to response to CTR-001-001.

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Subject Matter Code: C-01 Mercury

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Comment ID: CTR-002-007a

Comment Author: Comm. for a Better Environment

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-01 Mercury

References:

Attachments? Y

CROSS REFERENCES

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Comment: Proposed mercury criteria ignore the concentration of mercury in the food chain and site specific field data in a scientifically insupportable manner. One reason EPA's criterion allows mercury to harm Bay fishing, as shown above, is that EPA's proposed "bioconcentration factor" predicts that 1 part per trillion (ppt) of mercury in water results in 7,374 ppt in fish eaten by the public. EPA rejected "bioaccumulation factors" from the Great Lakes which predict that the same 1 ppt in water results in 27,900 to 140,000 ppt mercury in fish eaten by the public. This decision weakens the criterion drastically by ignoring mercury's most dangerous aquatic property.

EPA's rejection of data on mercury concentration in the aquatic food chain is scientifically insupportable. The fact that mercury concentrates strongly in aquatic food chains is beyond dispute. However, EPA's bioconcentration factor includes data on the "uptake and retention of a substance, from water only." EPA'S criterion thus fails to protect against human exposure to all mercury that gets into fish from the food the fish eat, which comprises most of this human mercury exposure. (The statement that EPA's "PBCFs take into account uptake from food as well as water" appears to mean food and water consumption by humans, and should not be read to obfuscate this problem.)

EPA's rationale for rejecting mercury bioaccumulation data for protection of San Francisco Bay is incorrect. The proposal states that, "Lacking the data, it is difficult to determine if the [bioaccumulation factors] used in the [Great Lakes Initiative] represent the potential for mercury bioaccumulation in surface waters in California." However, numerous high quality field measurements of San Francisco Bay water and fish eaten by the public demonstrate mercury bioaccumulation comparable with Great Lakes estimates and far greater than EPA'S "bioconcentration factor."(\*3) (\*16) These data are summarized in Table 7. It is unscientific to ignore high quality, consistent field data showing mercury concentration in aquatic food webs while proposing a criterion which allows harm to fishing.

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(\*3) San Francisco Estuary Institute, 1997. Regional monitoring program for trace substances 1995 annual report. Excerpts including pages 105, 3, and A-17 through A-24 showing the percentage of sediment bioassays (larval bivalve and Eohaustorius tests) that were toxic (less than 80% of control value) at RMP stations from 1991-1996, sampling stations, and dissolved and total metal, and PAH concentrations in San Francisco Bay waters.

(\*16) California Regional Water Quality Control Board, San Francisco Bay Region, 1995. Contaminant levels in fish tissue from San Francisco Bay. Final draft report. Excerpt including data from toxic pollutant analyses of fish tissue samples from S.F. Bay. December, 1994.

Response to: CTR-002-007a

See response to CTR-002-007b on this issue.

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Comment ID: CTR-002-007b

Comment Author: Comm. for a Better Environment

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-01 Mercury

References:

Attachments? Y

CROSS REFERENCES

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(\*16) California Regional Water Quality Control Board, San Francisco Bay Region, 1995. Contaminant levels in fish tissue from San Francisco Bay. Final draft report. Excerpt including data from toxic pollutant analyses of fish tissue samples from S.F. Bay. December, 1994.

Response to: CTR-002-007b

EPA acknowledges concerns expressed by the commentors about mercury bioaccumulation and the protectiveness of the mercury human health in the final rule. EPA is well aware of the adverse human health and environmental effects associated with mercury exposure and the role that bioaccumulation plays. Several reports have been published recently documenting EPA's concern for, and guidance on, protection from mercury exposure. These documents include: Mercury Study Report to Congress, (EPA-452/R-97-008); The National Survey of Mercury Contamination in Fish. Database Summary 1990-1995. September 29, 1997; 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water, (EPA-820-B-96-001); and Final Water Quality Guidance for the Great Lakes System: Final Rule. Fed Register, 60(56):15366-15425 (March 23, 1995). As noted in these documents and many other publications, mercury bioaccumulation is a very complex process that is not fully understood. Methylmercury is the most toxic and readily bioaccumulated form, but mercury methylation and bioaccumulation varies from location to location due to biological, physical, and chemical factors that are not completely understood. Much additional research is need to characterize these factors so that accurate predictions of methylmercury bioaccumulation can be made. EPA is working to improve the body of knowledge on mercury bioaccumulation, toxicity, and risk management, which will lead to improved protective mercury criteria. For example, EPA's Office of Research and Development is sponsoring a multi-year, several million dollar, Science to Achieve Results (STAR) research grant program to specifically investigate the fate and transport of mercury in the aquatic environment. Grants and funding will be awarded to successful applicants beginning in 1999.

In addition to these research activities, EPA is reviewing the basis for the human health mercury criterion and is conducting a comprehensive review of its overall human health criteria methodology. In 1998, Congress directed the National Academy of Sciences (NAS) to review the toxicological basis for EPA's reference dose (RfD) for mercury. NAS will review toxicological data generated from studies conducted in the Faroe and Seychelles Islands and assess its appropriateness for use in the RfD derivation. This review is scheduled to begin in mid-1999 and be completed in July, 2000. EPA plans to update the National 304(a) criteria once the review is complete, and then subsequently update criteria for California.

EPA believes the 304(a) mercury criteria will also be improved once the recently proposed revisions to the Ambient Water Quality Criteria Derivation Methodology Human Health (EPA-822-B-98-005) are final and ready for use in deriving National recommended criteria. Proposed changes to the human health methodology affect both the reference dose derivation and exposure assessment applicable to mercury. As recommended by a number of commentors, the proposed revisions to the human health methodology would use bioaccumulation factors (BAFs) rather than bioconcentration factors (BCFs) or practical bioconcentration factors (PBCFs), to derive water quality criteria in the future. EPA has received public comment on the proposed revisions to the health methodology and held an external peer review workshop in May, 1999. EPA believes that such peer review is essential to maintaining the scientific defensibility of its water quality criteria. Once the methodology is finalized based on reviewers' comments, new National recommended mercury criteria for human health and aquatic life can be derived, and then subsequently criteria for California can be updated.

Any revision to either a National or California mercury criterion will include an evaluation of all relevant bioaccumulation data. The data in the GLWQI is specific to the Great Lakes region and its applicability to California waters has not been finally determined. The GLWQI BAFs alone cannot be directly applied

to California because the biological, chemical, and physical factors that influence mercury bioaccumulation will be different in California when compared to the Great Lakes region. Examples of these factors include: foodchain interactions, physicochemical parameters (e.g. pH, temperature, dissolved and particulate organic matter), and size and type of watershed. Additionally, the GLWQI BAFs were developed for lakes only, whereas the waters affected by mercury in California include rivers and estuaries, for which very little data on the bioaccumulation potential of mercury is available. Virtually nothing is known about the applicability to rivers or estuaries of BAFs which are based on lake ecosystems. However, EPA is currently gathering bioaccumulation data on lentic (lakes), lotic (streams, rivers) and estuarine environments in order to assess the nature and extent of bioaccumulation in different water bodies and the application of BAFs across ecosystems. Although the bioaccumulation data cited by the commentors for San Francisco Bay and Clear Lake appear to be quality data, the development of any California-specific BAFs would require more than these few limited studies.

In summary, EPA agrees that mercury in the environment is a problem and has clearly documented its adverse effects to humans and ecological receptors. Regulatory controls are needed to protect humans, wildlife, and aquatic life from exposure to mercury. However, there are a number of issues that must be considered and resolved before EPA can conduct a revision of the National 304 (a) mercury criteria and promulgate revised values for California. The dominant issues are: 1) finalize the overall Ambient Water Quality Criteria Derivation Methodology for Human Health, 2) within the human health methodology, finalize the approach for deriving bioaccumulation factors, and 3) wait completion of the NAS review and subsequently revise the National human health criteria for mercury. For these reasons EPA is at this time promulgating mercury criteria of 0.05 ug/L (consumption of water and organisms) and 0.051 ug/L (consumption of organisms only) as proposed in the CTR, rather than promulgating revised criteria based on partially peer reviewed methodologies, evolving science, and incomplete understandings of the factors that affect mercury bioaccumulation. Once this comprehensive review is complete, the mercury criteria will be revised as appropriate, supported by scientifically defensible and peer reviewed methodologies and data.

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Comment ID: CTR-003-009  
Comment Author: City of Riverside  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: 9) The use of a \$200 and \$500 per toxic pounds-equivalent as an upper end cost basis seems arbitrary. From our perspective, there is no reason to assume that an alternative regulatory approach to toxics compliance will or, where uses may have been previously obtained, can be made available to the City at no cost. Although we disagree with EPA guidance, it clearly states that a minimum of 1-2% of median household income must be spent prior to relief based on economics. Relief may be available for expenses above that level. Assuming a median disposable household income of \$30,000 the ceiling would be \$300 - \$600 per year. Since households are now spending \$156.60 a year, that means that costs could go up \$143.40 - \$443.40 per household before the EPA would consider it an economic hardship. For 110,000 households, that is an increase of \$15,774,000 - \$48,774,000 per year for the City of

Riverside alone. When performing an economic analysis the EPA should be consistent with its own guidance.

Response to: CTR-003-009

See response to CTR-032-004 and CTR-060-019 (Category E-01m; Regulatory Relief)

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Comment ID: CTR-005-003c

Comment Author: Novato Sanitary District

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/23/97

Subject Matter Code: C-01 Mercury

References:

Attachments? Y

CROSS REFERENCES C-22

C-24a

G-09

G-05

G-04

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Comment: 2. The following provisions of the rule are supported: (1) adoption of metals criteria as dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury; and (4) the Preamble discussions regarding metals translators, mixing zones, and interim permit limits.

Response to: CTR-005-003c

EPA agrees with the comment.

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Comment ID: CTR-006-001a

Comment Author: Natural Resources Defense Cncl

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: C-01 Mercury

References:

Attachments? Y

CROSS REFERENCES

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Comment: The Natural Resources Defense Council strongly opposes the Region 9 EPA proposal to raise the allowable mercury criterion for continuous concentration in water from 0.012 parts per billion (ppb) to 0.770 ppb for aquatic life. This proposal is difficult to justify from the point of view of science and of public health. On behalf of our over 350,000 members nationwide and our over 55,000 California

members, we are writing to register our opposition to the EPA proposed rule.

Mercury is a highly poisonous metal which results in toxicity to the brain and nervous system and toxicity to human reproduction. In addition, in sediments, mercury is bio-transformed into the even more toxic form, methyl mercury, which has resulted in some of the largest epidemics of neuro-developmental poisoning known to mankind. Methyl mercury bioaccumulates in the food chain and thereby results in greatly concentrated exposures to humans, because we eat off the top of the food chain. Underestimates of the toxicity and bioaccumulation of mercury have led to major mistakes in the past. The Minamata Bay disaster in Japan was caused by a failure to predict the potency of mercury and the extent of human exposure through fish. U.S. EPA's Draft Mercury Study Report to Congress documents that children of high-end fish consumers in the U.S. may be exposed to enough mercury to cause adverse neuro-developmental effects.

In this setting it is anomalous to relax the standards for mercury contamination in California water. Furthermore, the scientific reasoning behind the Region 9 EPA decision to relax the mercury standard 60-fold is fraught with errors. NRDC's major concerns with this approach are summarized below.

\*Extrapolation for the Reference Dose (RfD) should start at a NOAEL, not at a level of 10% increased risk. \*An additional 10-fold safety factor should be added in deriving the RfD to account for the vulnerability of fetuses, infants, and children. \*The body weight in the calculation should be for a child, not an adult male. \*The Fish consumption rates for those who do eat fish should be used instead of rates for the entire population including those who do not eat fish. \*Average fish consumption quantities greatly understate the risk to those who eat a lot of fish. Instead, fish consumption for the top 5% of the population should be used. \*Bioaccumulation is known to be 10 to 100 fold greater than the estimate used by EPA. \*California's waters are already too polluted with mercury.

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The risk assessment used the-current reference dose (RfD) from U.S. EPA's Integrated Risk Information System (IRIS) which contains several problems that make it likely to be too high to be health protective. The starting point for the extrapolation was the dose which conferred a 10% increased risk to exposed humans. This is certainly not a No Observable Adverse Effects Level (NOAEL), and in fact, a 10% increase in risk is quite significant in scientific and public health terms. Despite the fact that the NOAEL was not used as a starting point for derivation of the RfD, only a 10-fold uncertainty factor was added to derive the RfD. This was presumably a half-log of 10 for within human variability and a half-log of 10 for lack of a two generation reproductive study. A half-log of 10 is clearly insufficient to account for the wide range of human variability. In fact, the effects of mercury on the developing nervous system and the appearance of clinical mercury toxicity at much lower doses in children make it highly likely that fetuses, infants, and children are far more than an order of magnitude more susceptible to the effects of mercury intoxication than are adults. Thus an additional factor of at least 10 should be added to account for the disproportionate susceptibility of children.

#### Incorrect Choice of Body Weight

The body weight used in the equation for the mercury criterion is 70 kg. This is an average adult male body weight. Average female body weight is around 60 kg and a child would weigh less than 10 kg (7.5 kg is a common choice in risk assessment). It is extremely odd to use an adult male body weight in the risk calculation when the populations of interest are pregnant women and children. It is a fact that adult males are simply at much less risk for the adverse health effects of mercury. Choice of an excessively large body weight leads to a larger predicted tolerable dose. Such a large dose might well be tolerable to

an adult male, but in the case of mercury, we are concerned with a different population at risk. Therefore the calculation should use the body weight of the lightest member of the population at risk, ie. the weight of a child, in the equation if there is any hope that the result of the calculation will provide any health protection for a child.

NRDC strongly urges Region 9 EPA to reassess the proposed standard for mercury. Recalculation of the reference dose to accommodate the known disproportionate impact of mercury on fetuses, infants, and children will require addition of at least another 10-fold safety factor. The starting point for RfD calculation should be a true NOAEL. The body weight calculation should use an average weight for a child. Fish consumption data should reflect the "high-end" consumer. Finally, the outdated and unsupported bioaccumulation factor of 7300 should be discarded in favor of a BAF which is supported by the current science in California.

Response to: CTR-006-001a

Regarding the choice of body weight, EPA disagrees that the use of a 70 Kg body weight is inappropriate for the calculation of the mercury criterion. Although the use of a 70 kg assumption results in a slightly less stringent value, the Agency disagrees that this represents an excessively large body weight. The comment author is also incorrect in the statement that the 70 kg assumption only represents adult males. The 70 kg assumption is, in fact, based on the combined average body weights of adult males and females according to data from the Second National Health and Nutrition Examination Survey (NHANES II). These data indicate that the average body weight for adult females of childbearing age is 65 kg. EPA does not believe that an adjustment of 5 kg would result in a significant change in the mercury criterion. However, EPA is developing a revised methodology for deriving water quality criteria to protect human health and is considering different default body weight recommendations for women of childbearing age and children (see draft revisions published August 14, 1998, Federal Register, Vol. 63, No. 157). EPA is currently reviewing public comments and is awaiting the results of a peer review on the draft methodology revisions. As part of this effort, EPA also intends to consider the more recently published NHANES III data for the same gender and age categories. Until these reviews are complete, it would be inappropriate to change the 70 kg assumption used to calculate the human health criteria for mercury.

EPA disagrees that the body weight of a child should be used for the calculation of the mercury criterion. The effect of concern is a developmental effect which is caused by exposure of the female to mercury and the transmigration of the mercury into the developing fetus to cause the developmental neurotoxic effect. Thus, if the exposure to the pregnant female is reduced to a level which is not toxic to the fetus, then the fetus is protected. This is achieved by calculating a maternal exposure level that corresponds to a NOAEL for developmental effects in the fetus, and in doing so, the weight of the pregnant female is the appropriate number on which to base the calculation.

For issues concerning the derivation of the Reference Dose and safety factors, see the response to CTR-006-002a. Regarding the fish consumption rate, see the response to this issue in CTR-002-002a. Regarding the bioaccumulation issue, see the response in CTR-002-007b.

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Comment Author: Natural Resources Defense Cncl

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State of Origin: CA

Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: C-01 Mercury  
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Attachments? Y  
**CROSS REFERENCES**

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The Natural Resources Defense Council strongly opposes the Region 9 EPA proposal to raise the allowable mercury criterion for continuous concentration in water from 0.012 parts per billion (ppb) to 0.770 ppb for aquatic life. This proposal is difficult to justify from the point of view of science and of public health. On behalf of our over 350,000 members nationwide and our over 55,000 California members, we are writing to register our opposition to the EPA proposed rule.

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Response to: CTR-006-001b

With respect to the bioaccumulation factors see response to CTR-002-007b. With respect to the mercury aquatic life criteria, EPA is not promulgating these criteria in today's rule (see the preamble of today's rule for further explanation). For an explanation why EPA does not believe today's rule will worsen water quality see response to CTR-002-003.

With respect to EPA's risk assessment procedures see responses to CTR-006-001a and CTR-006-002a.

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#### Use of Average Fish Consumption is not Health Protective

The assumption used by Region 9 EPA for fish consumption relies on the average fish and shellfish consumption in the entire general population, along with the average intake from each body of water. It is quite clear that fish consumption follows a highly skewed, or Poisson distribution in the population (see attachment from the U.S. EPA Draft Mercury Study Report to Congress, Appendix H, p. 20). Many people eat little or no fish, but a smaller, yet highly significant segment of the population eats a very large amount of fish. Surely EPA should strive just as hard to protect the health of those who eat fish frequently as it does to protect the health of those who do not eat fish.

In fact, this analysis adequately protects only those who eat little or no fish. The average which was used in the Region 9 EPA analysis appears to derive from the "per capita" data from the USDA Continuing Surveys of Food Intake by Individuals (CSF 11) from 1989-91 for males ages 15-44 years. (See attached tables from U.S. EPA Mercury, Report, Appendix H, pp. 8 & I 1). In fact, this average is highly influenced by those individuals who consume little or no fish. Non-fish-consumers, however, are not the population of interest for purposes of this analysis. Instead, if an average is to be used, it should be the average fish consumption rate for those people who do eat fish. This is substantially higher, at 53.7 g/day for males ages 15-44 years, and 41.4 g/day for females in the same age range. Furthermore, the average fish consumption will likely underestimate the fish consumption rate for the "high end" fish

consumer by many orders of magnitude. For example, in the case of females ages 15-44 years, average fish consumption (among those who do eat fish) is 41.4 g/day, while fish consumption by the top 5% of the population of these women of childbearing age is about 112 g/day, or more than double the average consumption rate.

The implications of not adequately protecting the high fish consumer are not trivial. The population of California is nearly 30 million, of whom overall 31% would be expected to be fish consumers according to the CSF II survey. This represents over 9 million people who would be at disproportionate risk. The top 5% of that population consists of nearly half a million people in California who would be expected to eat fish at nearly 10-times greater quantity than the EPA calculations would predict. 10 times greater consumption would translate into roughly 10-times greater risk from the mercury in the fish. EPA is not adequately protecting this substantial portion of the California population from mercury hazards.

NRDC strongly urges Region 9 EPA to reassess the proposed standard for mercury. Recalculation of the reference dose to accommodate the known disproportionate impact of mercury on fetuses, infants, and children will require addition of at least another 10-fold safety factor. The starting point for RfD calculation should be a true NOAEL. The body weight calculation should use an average weight for a child. Fish consumption data should reflect the "high-end" consumer. Finally, the outdated and unsupported bioaccumulation factor of 7300 should be discarded in favor of a BAF which is supported by the current science in California.

Response to: CTR-006-002a

The commenter criticizes the current RfD on IRIS in several respects. While EPA intends to develop a revised IRIS value, once it receives recommendations from the National Academy of Sciences (see discussion in response to CTR-030-007 and CTR-002-007b), EPA strongly believes that some level of protection needs to be in place for mercury because of its toxicity to humans and aquatic life (see response to CTR-002-007b). Therefore, EPA thinks it is reasonable to keep in place the human health value based on the current RfD, which it believes is scientifically defensible based on the state of the science at the time it was derived.

The EPA disagrees with the comment that an RfD should be calculated by selecting the NOAEL and applying the appropriate safety factor in the case of mercury due to the nature of the data. The data base for mercury allow for the use of continuous human data (i.e., there are no dose groups and no NOAEL as it is defined for a controlled animal study) on the most sensitive subpopulation which is the fetus.

In regard to the methodology used to calculate the Reference Dose (RfD), the following discussion is intended to clarify why the Benchmark Dose (BMD) approach is the most appropriate method to use for the mercury data. Traditionally, when assessing the human health hazard and dose response relationship for a toxicant which produces a non-cancer effect in humans or animals following exposure, a No Observed Adverse Effect Level (NOAEL) and the Lowest Observed Adverse Effect Level (LOAEL) is selected for the critical effect from among all the available data, and a series of uncertainty factors are applied as appropriate to determine the Reference Dose. This methodology is widely used by regulatory agencies as the first step in assessing potential human health risk from exposure to the substance in question. As more refined mathematical models are developed and better scientific data on toxicants are generated, there is the opportunity to calculate a BMD which more closely approaches the true NOAEL because more of the data and the characteristics of the data are utilized in the analysis. When the data base is robust and such refinements are possible, it is incumbent upon the risk assessors to generate these more realistic estimates of human health hazard for the reasons listed below.

People often misinterpret the NOAEL that is selected from a critical study as the actual level of exposure at which no adverse effects are observed, but actually, it is only the highest level at which no adverse effects are observed in that particular study or in a group of studies. The NOAEL is a function of study design, (i.e., the number of animals tested, the number of doses, the spacing between doses, the duration of exposure, and the route of administration). If the study design has adhered to the toxicity testing guidelines and Good Laboratory Practice (GLP) requirements, the NOAEL actually represents an effect level because of the number of animals used. As the number of test animals increases and more dose levels are tested, the power of the study and its ability to detect a toxic effect increases; the data generated are more robust and the NOAEL decreases as it approaches the real value. Studies with higher power result in lower NOAELs, smaller RfDs and a greater confidence in the level of safety. Also, NOAELs are often controversial since scientific judgment is applied to reach the conclusion that what is observed at the LOAEL is really adverse in nature; and the selection of one number for the NOAEL disregards valuable information gained from looking at the whole study and the slope of the dose response curve (There is a higher level of concern when the slope is steep because a small change in dose/exposure produces significant changes in the effects noted. Shallow slopes indicate that exposures can be increased over a broader range and the increase in the number or severity of the effects will be less dramatic). Consequently, there are many disadvantages to this methodology, but it is nevertheless frequently used due to the lack of better and more data on the toxicant under review.

However, some toxicants have presented a high level of interest to the scientific community and the regulatory programs and there exists an abundance of toxicology data (often times human data) from which to calculate risk. In these situations, it is preferable to use as much of the data as possible and to select an appropriate model for the data which allows the analyst to determine a Benchmark Dose (BMD). To do this, EPA chooses among a series of appropriate mathematical models. EPA fits each of these to the data. EPA then uses a statistical procedure to select the model that gives the best fit to the data. A BMD is a statistical lower confidence limit on the dose that produces a selected level of change in response rate in comparison to untreated control animals (e.g., 5% or 10% change in response when compared to the background response) (EPA 1995). In other words, the BMD approach selects a data point (point of departure at which there is a certain response level, in this case a 10% response level) and selects the appropriate mathematical model for the data which takes into account the slope of the dose response curve and the variability of the data. For mercury, the BMD thus represents the lower confidence limit for the dose that is estimated to produce the 10% level of change in response in the study population. The BMD thus represents the probability that 95% of the time, the dose producing the given level of response will be higher than the BMD. This approach is well suited to the data base for mercury since the human data are continuous, i.e., there is a response associated with all exposure levels and there is no non-exposed group. The BMD approach is a newer and more robust analysis which utilizes all the data and the special characteristics of these data, and the Agency would be errant in its mission if it did not utilize state of the art methods in risk assessment to achieve its goals of public health protection. Using this methodology improves the resulting non cancer risk assessment because it uses the dose response data to select an appropriate model which does not extrapolate to doses below the experimental range. The BMD can either be less than or greater than the corresponding NOAEL, it is not restricted to one of the experimental dose levels, and it accounts more appropriately for sample size and dose-response characteristics (Crump 1984, Dourson et al. 1985, Kimmel and Gaylor 1988). In deriving an RfD using this method, the BMD is then divided by the appropriate uncertainty factors. Where the data are appropriate and lend themselves well to the use of a BMD as in the case of the type and quantity of data on mercury, the Agency would be errant in its mission of public health protection if it assessed the hazard of mercury by using the simplistic NOAEL/LOAEL approach.

In the EPA RfD calculation for mercury, an estimate of a NOAEL was used; namely the lower 95% confidence limit on a dose corresponding to a 10% effect level for all reported neurodevelopmental effects reported in a population of 81 Iraqi children reported in Marsh et al. 1987. The 10% effect level refers to the dose which produces the defined effect in 10% of the study population. A Weibull model was fit to the data as recent research suggests that it may be the best model for developmental toxicity data (Faustman et al. 1994). Other research indicates that the lower confidence limit on the dose which produces a 10% response level (i.e., the BMD) is the appropriate choice when correlated with the NOAEL for developmental effects in controlled animal studies (Allen et al. 1994a, b). In the case of the mercury RfD, the 10% effect level was determined to be the most appropriate regarding the aforementioned discussion on comparison to background response (i.e., statistical significance) and when correlated to the NOAEL. It should be noted that the data on developmental effects in the Iraqi children are continuous with respect to dose. That is, there are no dose groups and no NOAEL as it is defined for a controlled animal study. The benchmark dose modeling procedure provides a reasonable approach to determining the exposure at which effects are observable above background.

EPA also disagrees with the comment that the adult males are at much less risk for the adverse health effects of mercury, and that the RfD should be recalculated with the addition of at least another 10 fold safety factor to accommodate the known disproportionate impact of mercury on fetuses, infants and children. In regard to the sensitivity of adult males vs fetuses, infants and children, the original RfD of 0.3 @g/kg/day was based on paresthesia in Iraqi adults exposed to methylmercury in grain. This is within a factor of three of the current RfD (0.1 @g/kg/day based on developmental neurotoxicity in the same population. According to EPA, an RfD is defined as "an estimate (with uncertainty spanning perhaps an order of magnitude)" of a daily exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effect during a lifetime. Thus, by this "order of magnitude" standard, the RfD based on adult effects overlaps that based on developmental endpoints. In the most recent publications on the poisonings in Minamata, exacerbation or onset of neurological symptoms have been noted as the population has aged.

In regard to the addition of another safety factor for fetuses, infants and children, the scientific community agrees that when deriving an RfD for methylmercury using sensitive developmental neurotoxic endpoints that the data represent the effects in children and fetuses. Thus, an additional 10 fold factor would be redundant. In calculation of the RfD, a composite uncertainty factor of 10 was used to account for a number of uncertainties related to the data. First, this uncertainty factor was applied for variability in the human population, in particular, the wide variation in biological half-life of methylmercury and the variation that occurs in the hair to blood ratio for mercury. In addition, the factor accounts for lack of a two-generation reproductive study and lack of data for possible chronic manifestations of the adult effects (e.g., paresthesia that was observed during gestation). EPA also considers whether to incorporate a modifying factor to address limitations on the data used (e.g., number of animals, sex of animals). The default value of one was used for the modifying factor. Additional discussion regarding the uncertainty factor based on the Marsh et al 1987, is excerpted from the Mercury Study Report to Congress, 1997, see "Addendum" for this information.

The fish intake rate of 6.5 gm/day is from a national, 30-day survey (the National Purchase Diary), based on an empirical distribution, where 6.5 gm/day represents the average value for the general population. Regarding the fish consumption analysis, the commenter is incorrect on several points. First, although EPA agrees that fish consumption distributions do tend to be skewed, the Agency disagrees that they follow a Poisson distribution. Nor has the commenter demonstrated that fish consumption follows a Poisson distribution. On the contrary, numerous studies have shown that average fish consumption rates are generally approximated by log-normal distributions. This is specifically true

for the CSFII survey data that the commenter references. The commenter is also incorrect that "many people eat little or no fish." According to the National Purchase Diary (NPD), the basis of the 6.5 gm/day intake rate, 94 percent of the survey respondents stated that they eat some fish. It is not EPA's intention to specifically protect non-consumers of fish. However, survey designs generally, and the referenced CSFII survey in particular, do not allow segregating the data to isolate consumers from non-consumers. The only determination that can be made from the CSFII data is whether a respondent did or did not eat fish during the three consecutive survey days. Therefore, the extrapolation made by the commenter that only 31 percent of the population are fish consumers is incorrect. The commenter is also incorrect that the basis of the chosen intake rate is for males ages 15-44 years. The 6.5 gm/day is based on all respondents from the NPD and, therefore, is representative of males and females in the general population. Further, the "per capita" data submitted by the commenter (from the 1996 draft version of the Mercury Study Report to Congress) are based on rates that include marine species (not used in the water quality criteria derivations), in addition to the estuarine/freshwater species that do comprise the value used in deriving water quality criteria. For additional discussion regarding the basis of the fish consumption rate, including the exclusion of marine species, see the response to this issue in CTR-002-002a.

Regarding the choice of body weight, see response to CTR-006-001a. Regarding the issues on bioaccumulation, see response to CTR-002-007b.

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#### The Bioconcentration Factor is Incorrect

The proposed EPA rule calculates a bioconcentration factor (BCF) in fish of 7300. Available data from the state of California indicates that this factor is wrong by between 10 and 100-fold. In the Great Lakes, mercury has been shown to accumulate with bioaccumulation factors (BAF) of 27,900 for trophic level 3 fish and 140,000 for trophic level 4 fish. Despite this evidence, EPA rejects these data for use in California and calculates a BCF more than 10-fold lower based on a model created 27 years ago. In fact, current data are available on bioaccumulation in California fish.

The San Francisco Bay Regional Monitoring Program has found BAFs of 60,000 to 200,000 in bivalves and research in California lakes has found a calculated BAF of over 500,000 fold. These data have been presented elsewhere in the rulemaking record by researchers from the University of California at Santa Cruz. Underestimating by one to two orders of magnitude the amount of bioaccumulation that will occur in the environment is a major error with potentially devastating public health implications. The potential result is that water will contain "permissible" concentrations of mercury while fish will be contaminated at levels too high for safe human consumption.

#### California is already Suffering from Mercury Pollution

Numerous water bodies in the state of California are already under fish advisory for mercury. These include Clear Lake, Lake Berryessa, the San Francisco Bay and Delta, Lake Herinan, Guadalupe Reservoir, Calero Reservoir, Almaden Reservoir, Guadalupe River, Guadalupe Creek, and Lake Nacimiento. In the face of this widespread environmental pollution with mercury, all incentives should be driving toward further reduction of mercury emissions and releases to water sources. By relaxing the mercury standards for water, U.S. EPA is heading in absolutely the wrong direction. Increases in allowable levels of mercury in the environment can only lead to more contaminated fish, more fish advisories, more pregnant women and children potentially exposed to this toxic metal, and more risks to public health.

NRDC strongly urges Region 9 EPA to reassess the proposed standard for mercury. Recalculation of the reference dose to accommodate the known disproportionate impact of mercury on fetuses, infants, and children will require addition of at least another 10-fold safety factor. The starting point for RfD calculation should be a true NOAEL. The body weight calculation should use an average weight for a child. Fish consumption data should reflect the "high-end" consumer. Finally, the outdated and unsupported bioaccumulation factor of 7300 should be discarded in favor of a BAF which is supported

by the current science in California.

Response to: CTR-006-003

Regarding the commenter's statements on the Reference Dose (RfD), refer to the responses on this same issue in CTR-006-001a and CTR-006-002a. Regarding the bioaccumulation issue, see response to CTR-002-007b.

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Comment ID: CTR-016-007

Comment Author: San Francisco Bay RWQCB

Document Type: State Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-01 Mercury

References:

Attachments? Y

CROSS REFERENCES

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Comment: Comments on the Proposed Mercury Criteria

The Regional Board supports the use of the current Reference Dose from IRIS in deriving the proposed mercury criteria, but we do not agree that the proposed weighted practical average BCF is appropriate for several reasons.

First, it has been our experience that accurate models of bioaccumulative metal uptake require detailed understandings and representations of biogeochemical cycling in aquatic environments. In the absence of a much more detailed, criteria derivation method that accounts for differences between aquatic environments, the Board agrees with current EPA policy that the BAF model used in the Great Lakes Initiative is a more technically sound approach for addressing bioaccumulative substances than approaches using BCFs.

Second, we disagree with EPA's conclusion that data are lacking to determine if the Great Lakes' BAFs are appropriate for use in California. There are ample data sets for derivation of BAFs for coastal waters and the major estuary in the State, as well as detailed water column, invertebrate, and fish tissue data available for mercury in the Sacramento River watershed and reservoir systems affected and unaffected by mercury.\*1) The Board encourages EPA to conduct the same level of analysis for the State of California as it did for the Great Lakes Region using existing data. Towards that end, we have calculated BAFs for two trophic levels for the San Francisco Bay Estuary using data from the San Francisco Bay Regional Monitoring Program according to the methodology outlined in the Great Lakes Initiative. For bivalves (trophic level 3), the field-measured BAF is 23,435; for trophic level 4 fish species typically caught by local fishermen, the field-measured BAF is 144,335.\*2)

The next set of comments relates specifically to the proposed "weighted average practical BCF" method. As written, we believe this method would be appropriate if the goal were to calculate the maximum marginal increase in mercury dose that a population could receive without exceeding the RfD. In other words, this approach allows the weighted dietary average to "dilute" the effects of high levels of mercury in individual water bodies. We do not believe that such an approach is appropriate for the derivation of

criteria that will be used to determine whether mercury levels are affecting uses of individual water bodies in California. Instead, consideration should be given to protecting established beneficial uses that rely on water quality in one stream segment. Our second comment is that it is not clear why EPA is including data for open ocean levels of mercury in the derivation of criteria for inland and estuarine waters. Third, it is also not clear whether the referenced BCFs pertain to the dissolved mercury fraction, or total recoverable and if the latter, why the proposed criteria are in terms of the dissolved fraction. Nor is it clear that the data used to derive the early BCFs were obtained using the ultra clean sampling techniques necessary to obtain true water column concentrations. Improper sampling and analytical techniques would yield higher water column values and lower BCFs than the true measurements.

In summary, the Regional Board requests that EPA calculate an appropriate set of BAFs for mercury applicable to the State of California and not adopt the criteria derived using the proposed method. The proposed mercury criteria are under protective of California waters by several orders of magnitude, and the implicit public concern being protected (average diet of the state's population) is inappropriate. For example, San Francisco Bay is currently listed as a water quality limited segment due to high levels of mercury in fish tissue. The mean dissolved mercury concentration in San Francisco Bay is 0.0019 ug/l and no samples have ever exceeded EPA's proposed standard of 0.05 ug/l.

(\*1) It is our understanding that extensive data sets exist for at least Clear Lake, Lake Nacimiento, Cache Creek, Walker Creek, Marsh Creek, the Sacramento River, and the New Almaden mining area. These water bodies encompass most of the types of aquatic systems where mercury levels pose water quality threats in the State.

(\*2) Both of these calculations are based on high quality data sets and report wet weight tissue concentrations and dissolved mercury concentrations. Because of the time constraints for comments, they are, however, first-cut estimates using mean reported values. The derivation of a BAF for San Francisco Bay can be made much more precise by separating out location, time, specific species, deployment variables (such as size, growth, and post-deployment bioaccumulation), and available TOC using this data base.

Response to: CTR-016-007

EPA acknowledges the San Francisco Bay Regional Water Quality Board's agreement with EPA's position that a BAF model better represents bioaccumulation potential than a BCF. As noted by the commentor, the issue of mercury bioaccumulation is very complex. EPA is working to improve the knowledge base on mercury bioaccumulation and is in the process of updating its overall method for assessing bioaccumulation and deriving BAFs. EPA's National human health water quality criteria are based on national averages of fish consumption from all relevant sources, which is why the PBCF is based on a weighted average that includes open ocean data. The mercury PBCFs and criteria for human health protection are based on total mercury, not the dissolved total form. Only the freshwater and saltwater CMC and CCC are based on the dissolved inorganic form (Hg-II). For further response to the bioaccumulation issue, refer to response to CTR-002-007b.

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Comment ID: CTR-020-004a  
Comment Author: City of Stockton  
Document Type: Local Government  
State of Origin: CA  
Represented Org:

Document Date: 09/24/97  
Subject Matter Code: C-01 Mercury

References:

Attachments? Y

**CROSS REFERENCES**

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Comment: II. Use of New Scientific Information

The City acknowledges and supports EPA's update of several water quality criteria including those for mercury, cadmium and arsenic. While a number of criteria were updated to reflect current scientific information, there are a few notable exceptions.

The following briefly addresses the key updates and omissions that should be addressed in the final publication of this rule.

A. Criteria that Fail to Reflect Updated Scientific Information

1. Mercury

Mercury criteria were significantly corrected, and the City supports this action. The acute criteria were changed to the dissolved form, the misclassified chronic criteria were changed from 0.012 ppb to 770 ppb, and the human health fish tissue-based criteria were raised from 12 parts per trillion ("ppt") to 50 ppt and now apply at harmonic mean flows. These corrections appear to reflect the latest available scientific information. EPA indicated that the human health criteria were based upon fish tissue contaminant levels. Because the underlying basis for the criteria is an assumed fish tissue contamination level, the human health criteria should either (1) allow for adjustment of the criteria where it is apparent that fish tissue levels are acceptable but the criteria may be exceeded or (2) specify that information on fish tissue contamination may be used as a screening tool to determine if the discharge has a reasonable potential to cause exceedance of the criteria. If the fish tissue data indicate that the existing discharge is acceptable, no limitation should be included in the permit.

Response to: CTR-020-004a

EPA acknowledges the commenter's support for the criteria reflecting the latest scientific information, notwithstanding the fact that the commenter has incorrectly referred to the previous aquatic life criterion of 12 ppt as the previous human health value. Regarding the two options that the commenter presents for human health criteria when the underlying basis is a fish tissue concentration, EPA disagrees that the first option is a plausible scenario, given the BCF-based calculation. EPA believes the reverse scenario is far more likely (i.e., when the fish tissue levels are not acceptable but the water column value is not exceeded). For the second option, EPA agrees that the use of fish tissue is more acceptable for back-calculating from fish tissue concentrations to ambient concentrations in order to determine remaining assimilative capacity.

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Comment ID: CTR-020-004b  
Comment Author: City of Stockton  
Document Type: Local Government  
State of Origin: CA  
Represented Org:

Document Date: 09/24/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? Y  
**CROSS REFERENCES**

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Response to: CTR-020-004b

See response to CTR-020-004a.

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Comment ID: CTR-027-012c  
Comment Author: California SWQTF  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-01 Mercury  
References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040  
Attachments? N  
**CROSS REFERENCES C-22**  
C-24  
G-09  
G-05

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Comment: PROVISIONS OF THE PROPOSED RULE WE SUPPORT

Notwithstanding the above comments, we believe there are certain elements of the proposed rule with respect to establishing water quality standards that we can support:

- \* Metal criteria expressed in the dissolved fraction rather than expressed in the total recoverable fraction.
- \* Metal criteria that are developed as a function of the water-effect-ratio (WER).
- \* The current proposed human health criterion for mercury.
- \* The current preamble language regarding metal translators and mixing zones.

We believe the above provisions provide a more acceptable, scientific approach to the water quality-based pollution control approach. We recommend these provisions of the current rule remain as proposed.

Response to: CTR-027-012c

EPA acknowledges the commenter's support of the rule.

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Comment ID: CTR-030-006

Comment Author: Utility Water Act Group

Document Type: Trade Org./Assoc.

State of Origin: DC

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-01 Mercury

References:

Attachments? Y

CROSS REFERENCES

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Comment: B. The Proposed Mercury Human Health Criterion is Technically Deficient

EPA proposes a human health criterion for mercury of 50 nanograms per liter for California. 62 Fed. Reg. at 42,194. This criterion, while substantially less stringent than that applied in the Great Lakes Water Quality Rule, is technically deficient because assumptions used in developing the criterion are not scientifically defensible. For example, the Bioconcentration Factor (BCF) used in the criterion equation assumes a "steady state" relationship between mercury levels in the water column and mercury levels in fish. In fact, the California proposal's preamble states "the BCF is defined as the ratio of chemical concentration in the organism to that in the surrounding water." 62 Fed. Reg. at 42,179, col. 3. The preamble also references EPA's water quality criteria document for mercury, which stipulates that "These [BCF] calculations depend upon a number of assumptions. The basic assumption is that, on the average, the concentration of methylmercury in fish muscle is related to the concentration of total mercury in water. This might be true if (1) methylmercury on the average is a constant fraction of total mercury in water . . ." Ambient Water Quality Criteria for Mercury, EPA 440/5-80-058 (October 1980) (Mercury Criteria Document) at C-25 to C-28. However, the ratio of mercury in the water column to mercury

levels in fish is not a "steady state" but can vary by as much as a factor of 100, particularly in streams and littoral areas of larger bodies of water. This variability is described at length in the Proceedings of the Third International Conference on Mercury as a Global Pollutant, reprinted in *Water, Air and Soil Pollution Journal* 80 (1-4) 1995 (Proceedings of Third International Conference). The preamble to the California proposal does not address the variability of total mercury concentrations in the water column, but acknowledges the variability in the ratio of methylmercury to total mercury concentrations in the water column, stating:

To a considerable degree the magnitude of the BAF for mercury in a given system depends on how much of the total mercury in that system is present in the methylated form. Methylation rates vary widely from one aquatic system to another for reasons that are not fully understood.

62 Fed. Reg. at 42,180, cols. 1-2. Having acknowledged that methylation rates vary widely, EPA should not employ a model which is preconditioned on the existence of constant methylation rates.

UWAG also notes the following additional questionable assumptions of the proposed criterion.

\* The criterion does not adequately acknowledge fate and transport processes such as evasion and deep sediment burial, which in many aquatic systems can remove 90 percent or more of the available mercury. Although the California proposal incorporates the concept of mixing zones, mixing zones only provide for partial consideration of the fate and transport mechanisms which reduce water column concentrations of mercury. Fate and transport processes - particularly evasion - take place over several days whereas mixing is a more instantaneous process. Since fish bioaccumulate mercury over their lifespan, it is the range of mercury concentrations that fish experience over their entire life (and not the concentration at the edge of a mixing zone) which is of concern. A subcommittee of EPA's Science Advisory Board (SAB) has criticized EPA's fate and transport models for ignoring evasion. In its recent report, the Subcommittee states: "It is unfortunate that soil and water loss degradation constants were not incorporated in the model. Several recent studies have shown that (elemental) Hg production and evasion are common processes in soils and surface waters." SAB, Report of the Mercury Review Subcommittee, Executive Committee Review Draft, dated June 30, 1997, p. 30.

\* The RfD is inappropriate because it is based on a chronic exposure study done in Iraq under poor field conditions. Newer and much better data are available from a number of studies, including those conducted in the Seychelles Islands. (See 11 papers presented in *Neurotoxicology* Vol. 16, no. 4 (1995)). These data should be evaluated and should result in a larger RfD.

\* The California proposal's BCFs (\*2) are not valid because they use erroneous water column concentrations and arbitrary fish concentrations. The open ocean mercury concentration of 15 ng/l apparently was taken from an outdated 1979 report by Fitzgerald. In more recent peer-reviewed literature, Fitzgerald identifies the open ocean mercury concentration as more than ten fold less than the cited values (see Proceedings of Third International Conference, particularly "Methylation and Elemental Mercury Cycling in Surface and Deep Ocean Water of the North Atlantic" by Mason, Rolfus and Fitzgerald). The 17 ng/l estuarine and 40 ng/l fresh water values are similarly off by a factor of ten. (See Proceedings of Third International Conference, particularly "Mercury Speciation in the Scheldt Estuary" by Leermakers et al., and "Mercury Concentrations in Two Great Waters" by Cleckner et al.) Moreover, the range of concentrations between water bodies is great and prompted the SAB Subcommittee to conclude that BAFs (and, presumably, BCFS) can only be derived and used on a site-specific basis. The Subcommittee similarly concluded that fish mercury concentrations between various species in a given body of water vary dramatically.

\* Furthermore, the BCFs are not valid for use in the California proposal because they were developed primarily on the basis of species from the Eastern half of the United States and the Atlantic Ocean (e.g., sardines). See Mercury Criteria Document.

For all of these reasons, UWAG believes the proposed human health mercury criterion is fundamentally flawed and should be subject to rigorous reevaluation by the Agency.

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(\*2) The term BCF is used inconsistently in the California proposal's preamble and in the Mercury Criteria Document. In the preamble, BCF is defined as fish uptake of mercury by respiration alone and specifically excludes mercury uptake through ingestion of food. The preamble goes to considerable length to explain that uptake by both respiration and ingestion is a different process defined as bioaccumulation. The preamble explains that a criterion based on bioaccumulation is not being considered at this time but may be incorporated into future rulemakings. The preamble then explains how its bioconcentration values were taken from the Mercury Criteria Document. That document, however, uses the term "bioconcentration" in a completely different sense. Bioconcentration, as used in the Mercury Criteria Document, is actually bioaccumulation as defined in the 1997 preamble. The Mercury Criteria Document derives its bioconcentration values from actual fish levels measured in ocean and lake fish caught for commercial purposes. Consequently, those fish were exposed to mercury both from the water column and from their food sources. Bioconcentration factors (as the term is defined in the 1997 preamble) can only be obtained from fish reared in carefully constructed laboratory experiments where the diet is purposefully devoid of the naturally occurring mercury commonly found in natural forage.

Response to: CTR-030-006

EPA agrees with the commenter that considerable variability can exist in both total and methylmercury concentrations in the water column. However, predicting the amount of methylmercury present for a given concentration of total mercury is very difficult. The amount of methylmercury formed is affected by numerous chemical, physical, and biological factors which are not well understood. Examples of these include: foodchain interactions; physicochemical parameters (e.g., pH, temperature, dissolved and particulate organic matter); and size and type of watershed. It is readily acknowledged that mercury is toxic, causing a variety of adverse effects to both humans, fish, and wildlife. Thus, methods are needed to assess mercury exposure and effects, and to control its release to the environment. These issues are discussed in the Mercury Study Report to Congress, (EPA-452/R-97-008); The National Survey of Mercury Contamination in Fish. Database Summary 1990-1995. September 29, 1997; 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water, (EPA-820-B-96-001); and Final Water Quality Guidance for the Great Lakes System: Final Rule. Fed Register, 60(56):15366-15425 (March 23, 1995). EPA is not aware of any method to accurately predict concentrations of methylmercury in the water column and subsequent bioaccumulation in aquatic biota, nor does the commenter suggest any method. Although there are a few fate/transport models that could be used to assess the fate of mercury in the environment, these models are still in developmental stages, have only been applied under a narrow range of environmental and biological conditions, and will require validation before they are ready for use on a broad scale. Therefore, EPA believes that the use of BCFs represents the most appropriate method at this time for use in the CTR. Furthermore, as suggested by the commenter, EPA is currently undergoing a comprehensive review of the human health mercury criteria, in addition to the overall human health criteria derivation methodology. Once this review is complete, EPA intends to revise its National human health mercury criteria, and subsequently update California's mercury criteria. For further response to the bioaccumulation issue, refer to response to comment for

CTR-002-007b.

Regarding comments on the Reference Dose (RfD), EPA has on two occasions published RfDs for methyl mercury which have represented the Agency consensus for that time. These are described in the sections below. The original RfD of 0.3 @g/kg/day was determined in 1985. The current RfD of 0.1 @g/kg/day was established as Agency consensus in 1995, based on the study by Marsh et al. 1987. The Agency is aware of all the additional data that have become available since the calculation of the current RfD. At the time of the generation of the Mercury Study Report to Congress, it became apparent that considerable new data on the health effects of methyl mercury in humans were emerging. Among these are large studies of fish, or fish and marine mammal, consuming populations in the Seychelles and Faroes Islands. Smaller scale studies are in progress which describe effects in populations around the Great Lakes.

However, as much of this new data have either not yet been published or have not yet been subject to rigorous peer review, it was decided that it was premature for EPA to make a change in the 1995 methyl mercury RfD at this time. This decision was approved by the Science Advisory Board (SAB), a public advisory group providing extramural scientific information and advice to the Administrator and other officials of the EPA. The SAB is structured to provide balanced, expert assessment of scientific matters relating to problems facing the Agency. Their report makes the following statement.

"In general, from the standpoint of looking at human health effects and the uncertainties, the draft report is a very good document and an important step forward in terms of bringing the relevant information together into one place for the first time. The current RfD, based on the Iraqi and New Zealand data, should be retained at least until the on-going Faroes and Seychelles Islands studies have progressed much further and been subjected to the same scrutiny as has the Iraqi data."

The SAB report continues:

"Investigators conducting two new major prospective longitudinal studies--one in the Seychelles Islands the other in the Faroe Islands--have recently begun to publish findings in the literature and are expected to continue releasing their findings during the next 2-3 years. These studies have advantages over those cited in the previous paragraph in that they have much larger samples sizes, a larger number of developmental endpoints, potentially more sensitive developmental endpoints, and control a more extensive set of potential confounding influences. On the other hand, the studies have some limitations in terms of low exposures (to PCBs in the Faroes) and ethnically homogenous societies. Since only a small portion of these new data sets have been published to date and because questions have been raised about the sensitivity and appropriateness of the several statistical procedures used in the analyses, the Subcommittee concluded that it would be premature to include any data from these studies in this report until they are subjected to appropriate peer review. Because these data are so much more comprehensive and relevant to contemporary regulatory issues than the data heretofore available, once there has been adequate opportunity for peer review and debate within the scientific community, the RfD may need to be reassessed in terms of the most sensitive endpoints from these new studies."

An inter-agency process, with external involvement, will be undertaken for the purpose of reviewing these new data, their evaluations, and the evaluations of existing data. An outcome of this process will be an assessment by EPA of its RfD for methyl mercury to determine if a change is warranted.

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Comment ID: CTR-030-007

Comment Author: Utility Water Act Group  
Document Type: Trade Org./Assoc.  
State of Origin: DC  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? Y  
**CROSS REFERENCES**

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Comment: C. EPA Should Delay Promulgation of a Mercury Human Health Criterion Until SAB Subcommittee Comments

In forming a SAB subcommittee to comment on its draft Mercury Report to Congress, EPA has engaged a group of very knowledgeable scientists to assist it in understanding the fate and transport of mercury. That subcommittee has prepared draft comments and will finalize those comments within the next few months. EPA should review and evaluate the Subcommittee's final comments before promulgating mercury criteria for California.

Response to: CTR-030-007

EPA has reviewed and incorporated all of the SAB subcommittee's final comments that are possible to incorporate at this time. However, there are further analyses on mercury that are in progress. EPA has entered into an 18-month agreement with the National Academy of Sciences (NAS) to resolve outstanding issues with the mercury risk assessment. Additionally, EPA is in the process of developing methods to more accurately measure bioaccumulation, as part of the revisions to the human health methodology for deriving water quality criteria. After finalization of the methodology and completion of the NAS agreement, EPA intends to update its criterion for mercury. Until that time, EPA believes that the proposed CTR criteria value for mercury is appropriate and reflects the best available scientific information.

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Comment ID: CTR-032-006a  
Comment Author: Las Gallinas Val. Sanitary Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-01 Mercury  
References: Letter CTR-032 incorporates by reference letter CTR-035  
Attachments? N  
**CROSS REFERENCES C-24**

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Comment: Mercury Criteria

The District supports the proposed revised human health criteria for mercury based on updated IRIS information. The District also supports EPA's decision (CTR P. 42180) not to apply the bioaccumulation factor (BAF) developed for the Great Lakes Initiative to the CTR mercury criteria. We agree that mercury methylation rates vary widely and are not well understood, particularly for amalgam related

mercury. We believe that adoption of a national BAF under consideration as part of the "Mercury Study Report to Congress: SAB Review Draft" is inappropriate for California, particularly for the complex San Francisco Bay system. CDA recommends that EPA direct the State to develop a site specific objective (SSO) for mercury for San Francisco Bay based on a site specific BAF and data on natural cleanup processes and methylation processes. The proposed CTR criteria should serve as interim criteria until the SSO is developed and adopted.

Response to: CTR-032-006a

EPA acknowledges the commenter's support of the rule. Regarding the recommendation for a "site-specific objective" for mercury in San Francisco Bay, EPA always advocates that states develop site-specific criteria when local data are available. However, EPA also believes that protective defaults are appropriate.

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Comment ID: CTR-035-002b  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? N  
CROSS REFERENCES C-22  
C-08a  
G-05  
G-04  
G-09  
K-01  
C-24a

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Comment: Second, we commend EPA for its inclusion in the CTR of several innovative and flexible regulatory approaches, such as metals criteria expressed as dissolved rather than total recoverable concentrations, and the revised human health criterion for mercury. In addition, in light of the issues surrounding the human health criteria for arsenic we support EPA's decision not to promulgate human health criteria at this time. With respect to implementation issues discussed in the Preamble, we support EPA's policies and guidance regarding the application of mixing zones and dilution credits. the use of interim permit limits while Total Maximum Daily Loads (TMDLs) and other special studies are being performed, and EPA's guidance to Regional Water Quality Control Boards (RWQCBs) that they may use any of the methods described in EPA's guidance document on the use of translators. We also support EPA's proposal to create a rebuttable presumption for Water Effects Ratios (WERs), allowing the RWQCBs and SWRCB to develop site-specific WERs that can be approved by EPA during the NPDES permit approval process. We believe that this approach will help facilitate the development of appropriate site-specific adjustments for metals criteria.

Response to: CTR-035-002b

EPA acknowledges the commenter's support of the rule.

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Comment ID: CTR-035-026  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: pp. 42179-42180 -- Mercury Criteria We support EPA's promulgation of revised human health criteria for mercury based on updated IRIS information We also support EPA's decision not to apply the bioaccumulation factor (BAF) developed for the Great Lakes in the Great Lakes Initiative to the CTR mercury criteria. We agree that there is insufficient evidence at this time to substantiate whether this is an appropriate BAF for California. Further, we question whether a single BAF should be developed in the future for California, given the varied nature of the water bodies in the State -- ranging from the Bay-Delta in northern California to concrete-lined effluent-dominated streams and the saline, agricultural drainage-dominated Salton Sea in southern California -- as well as the variation in methylation rates and the amount of methylated mercury in these varied ecosystems. For these reasons, we also doubt that it is possible to derive a valid national BAF for mercury.

Response to: CTR-035-026

EPA acknowledges the comment on the Agency's choice not to use a BAF for the mercury criterion. EPA believes that the use of a BCF is most appropriate at this time for the CTR. EPA further understands the complexity surrounding the issue of bioaccumulation and is currently working on improving its methodology, including evaluating the impact that the type of water body has on bioaccumulation.

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Comment ID: CTR-038-002c  
Comment Author: Sonoma County Water Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? Y  
CROSS REFERENCES C-22  
C-24a  
G-04  
G-05  
G-09

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Comment: 2. The following provisions of the rule are supported (1) adoption of metals criteria as dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury; and (4) the Preamble discussions regarding metals translators, mixing zones, and interim permit limits.

Response to: CTR-038-002c

EPA acknowledges the provisions of the rule supported by the commenter.

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Comment ID: CTR-039-005

Comment Author: San Francisco BayKeeper

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-01 Mercury

References:

Attachments? N

CROSS REFERENCES

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Comment: III. EPA'S PROPOSED MERCURY NUMBER IS FLAWED BECAUSE IT IGNORES RELEVANT DATA REGARDING ITS POTENTIAL TO BIOACCUMULATE

EPA's proposed mercury number, in addition to using an inappropriate fish and shellfish consumption rate, also fails to factor in bioaccumulation of mercury into fish tissue. Assuming EPA is accurate in that it does not know the specific potential for mercury to bioaccumulate in waters of the State of California, it is certain that some rate of bioaccumulation is occurring. Unfortunately, EPA only applies a bioconcentration factor, ignoring the mercury that is entering fish through their own food consumption. In fact, in at least one region of the State -- the San Francisco Bay area -- there is ample data from which an accurate bioaccumulation factor can be determined. See Comments of Communities For A Better Environment. That factor is comparable to the rate of bioaccumulation observed in Great Lakes fish, which is from four times to 20 times greater than EPA's proposed bioconcentration factor.

Response to: CTR-039-005

EPA acknowledges the comments made on the use of BCFs. EPA believes that this represents the most appropriate method at this time for use in the CTR. EPA further understands the complexity surrounding the issue of bioaccumulation and is currently working on improving its methodology. Regarding the fish consumption rate, see the response to this issue in CTR-002-002a. Regarding bioaccumulation and available data from the San Francisco Bay area, see response to CTR-002-007b.

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Comment ID: CTR-040-002b

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-01 Mercury

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES C-24a

G-09

G-05

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Comment: PROVISIONS SUPPORTED

We support a number of provisions of the Rule, including: (1) adoption of metals criteria as dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury- and (4) the Preamble discussions regarding metals translators and mixing zones. These provisions provide a firmer scientific base for the water quality-based approach to pollution control and are a marked improvement over the old Inland Surface Waters Plan. We would urge EPA to retain these provisions in the final Rule.

Response to: CTR-040-002b

EPA acknowledges the provisions of the rule supported by the commenter.

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Comment ID: CTR-041-004

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-01 Mercury

References:

Attachments? N

CROSS REFERENCES

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Comment: Third, the District strongly supports the revised human health criteria for mercury, and EPA's recognition that bioaccumulation factors (BAF) from the Great Lakes are highly unlikely to be applicable in the diverse California environment. Consequently, the District does not believe that the proposal to develop a national BAF for mercury is scientifically sound. The use of most recently available and applicable data from EPA's resources to revise the human health criteria is the type of sound scientific procedure that should be used. Similarly, EPA's recognition that mercury methylation, the key to the magnitude of the BAF for a given system, is widely variable and not understood is also welcomed and supported. Given these statements in the proposal, however, EPA's subsequent proposal to develop a national BAF has little merit and is not supported by the District.

Response to: CTR-041-004

EPA disagrees that its effort to derive national default bioaccumulation factors for mercury are inappropriate. EPA acknowledges the complexity of mercury biogeochemical cycling and bioaccumulation in aquatic ecosystems, but believes that need to control mercury risks to humans

warrants the development of national, default human health criteria that reflect the latest science on mercury toxicity and bioaccumulation. EPA is aware of only one comprehensive model on mercury cycling and bioaccumulation that has been developed (the Mercury Cycling Model) and believes, at this time, that the model cannot be extrapolated with sufficient certainty to ecosystems that differ substantially upon which it was based (i.e., northern oligotrophic lakes). This model was specifically developed with northern oligotrophic lakes and reservoirs in mind, and EPA believes at this time it can not be extrapolated with sufficient certainty to ecosystems that differ substantially from this (e.g., streams, rivers, estuaries), and for which mercury bioaccumulation is also an important issue. This uncertainty exists partly because the model represents ecosystem dynamics rather simplistically, though more because of limitations in the science than by preference. Mercury bioaccumulation to higher order trophic levels influenced heavily by the type of food chain (i.e. benthic or pelagic based) and complexity of food chain interactions. The model must make assumptions about food chain interactions that limit the models predictive capability. Uptake and depuration of mercury in natural systems is also difficult to measure and predict, the model must make assumptions about these processes that limit its predictive capability. In order to minimize the effect that model assumptions have on predicting mercury uptake for a given application, it is necessary to have some local hydrological, physical, and biological data to calibrate the model. In most cases, such data is not available. Such limitations are common for most predictive models. Therefore, given the state of the science for the few available models, and because EPA must address mercury bioaccumulation for a broad range of aquatic ecosystems (e.g. lakes, streams, estuaries), EPA believes at this time it is most appropriate to derive BAFs for mercury. EPA is currently collecting data on bioaccumulation for all aquatic ecosystems, however, it is unclear whether BAFs will be developed separately for each type of aquatic system or if one value will be derived for application to all aquatic systems. Therefore, EPA anticipates the need to develop BAFs for mercury which have applicability to a broad range of aquatic ecosystems (rivers, lakes, estuaries). At this time, it is unclear whether BAFs will be developed separately for each type of waterbody because EPA is currently collecting and evaluating mercury bioaccumulation data.

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Comment ID: CTR-041-007a

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-01 Mercury

References:

Attachments? N

CROSS REFERENCES C-22

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Comment: 2. Additional Strong Reasons to Maintain use of Dissolved Metals and Mercury Criteria

The District also has significant economic reasons to support the use of dissolved metals and the updated mercury criteria. Previous District studies have shown that adoption of metal criterion as total recoverable would cost the District more than \$50 million a year while reducing metal loads in the Sacramento River by several percent. Likewise, if old mercury criteria were adopted it would cost the District over \$100 million a year while reducing mercury loads in the Sacramento River by several percent.

Response to: CTR-041-007a

EPA acknowledges the commenter's support, however the commenter did not provide enough information for EPA to comment on its cost estimate related to total recoverable criteria and the old mercury criteria.

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Comment ID: CTR-043-002c  
Comment Author: City of Vacaville  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? Y  
CROSS REFERENCES C-22  
C-24a  
G-04  
G-05  
G-09

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Comment: 2. The following provisions of the rule are supported: (1) adoption of metals criteria as dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury; and (4) the Preamble discussions regarding metals, translators, mixing zones and interim permit limits.

Response to: CTR-043-002c

EPA acknowledges the provisions of the rule supported by the commenter.

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Comment ID: CTR-044-003c  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? Y  
CROSS REFERENCES C-22  
C-24a  
G-09  
G-05  
G-04

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Comment: We have reviewed the proposed CTR and offer the following comments:

2. The following provisions of the rule are supported:

- (1) adoption of metals criteria as dissolved concentrations;
- (2) expression of the metals criteria as a function of the water-effect ratio;
- (3) adoption of the proposed new human health criteria for mercury; and
- (4) the Preamble discussions regarding metals translators, mixing zones, and interim permit limits.

Were the old human health criterion for mercury (0.012 ug/ l) to be adopted, the City would have to remove its discharge from Tule Canal and go to land disposal. The capital cost to do this would be \$22.1 million and the total present worth cost would be \$23.1 million (see Exhibit B, Required Capital improvements and Costs for Beryllium and Mercury). This would translate to an annual cost of \$3.1 million per year (at 7% over 10 years) and would require that monthly sewer service charges be increased by more than 100%.

Response to: CTR-044-003c

EPA acknowledges the provisions of the rule supported by the commenter.

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Comment ID: CTR-045-006  
Comment Author: Sausalito-Marín Sanitary Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? Y  
**CROSS REFERENCES**

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Comment: The District supports many of the items included in the proposed CTR:

The revised human health criterion for mercury.

Response to: CTR-045-006

EPA acknowledges the commenter's support of the mercury criterion.

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Comment ID: CTR-051-003a  
Comment Author: Cal. RWQCB Central Valley Reg.  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-01 Mercury  
References:

Attachments? N  
CROSS REFERENCES

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Comment: Mercury

The proposed mercury criteria are not appropriate for California waters and could seriously undermine ongoing regulatory and watershed efforts to address regionwide mercury concerns. In the Central Valley Region, existing ambient concentrations of dissolved mercury are two orders of magnitude lower than the proposed criteria, yet there are widespread beneficial use impairments that result from elevated mercury levels in fish. There are consumer advisories in effect in the Delta, Clear Lake and Lake Berryessa because of elevated fish tissue levels of mercury. There is widespread concern about mercury bioaccumulation in fish and wildlife. Mercury cycling and transfer through the ecosystem is very complicated. More research is needed to determine which sources and forms of mercury, in California, are important in controlling how much mercury is concentrated in aquatic systems. Also, use of national or statewide fish consumption values are inappropriate. Subsistence fishing is practiced by many of California's subpopulations. Protection of these subpopulations necessitates establishing site specific consumption estimates upon which to base a criterion. For the reasons stated above, the proposed criteria for mercury should not be adopted.

Please call me at (916)255-3087 or Jerry Bruns at (916)255-3093 if you have any questions regarding these comment.

Response to: CTR-051-003a

EPA disagrees that its program to derive national default criteria is inappropriate. EPA understands that conditions vary from state to state and can vary among different site-specific locations within a given state. However, under Section 304(a) of the Clean Water Act, EPA is required to develop, and from time to time revise, such default criteria to help protect human health and designated uses of the nation's water bodies. As such, EPA believes that the criteria program is necessary and appropriate. The State will be translating the state's narrative criteria, site-specifically, to better account for exposure to mercury. The State will also develop regulatory controls that will protect designated uses. If there is widespread beneficial use impairment, then these waterbodies will appear on EPA's 303 list for TMDL development and protective target goals for the waterbodies will be addressed as part of that process. In addition, EPA will be updating its human health water quality criteria methodology to better reflect exposures through the food chain.

Regarding the fish consumption values chosen, see response to CTR-002-002a.

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Comment ID: CTR-051-003b  
Comment Author: Cal. RWQCB Central Valley Reg.  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? N

## CROSS REFERENCES

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Comment: Mercury

The proposed mercury criteria are not appropriate for California waters and could seriously undermine ongoing regulatory and watershed efforts to address regionwide mercury concerns. In the Central Valley Region, existing ambient concentrations of dissolved mercury are two orders of magnitude lower than the proposed criteria, yet there are widespread beneficial use impairments that result from elevated mercury levels in fish. There are consumer advisories in effect in the Delta, Clear Lake and Lake Berryessa because of elevated fish tissue levels of mercury. There is widespread concern about mercury bioaccumulation in fish and wildlife. Mercury cycling and transfer through the ecosystem is very complicated. More research is needed to determine which sources and forms of mercury, in California, are important in controlling how much mercury is concentrated in aquatic systems. Also, use of national or statewide fish consumption values are inappropriate. Subsistence fishing is practiced by many of California's subpopulations. Protection of these subpopulations necessitates establishing site specific consumption estimates upon which to base a criterion. For the reasons stated above, the proposed criteria for mercury should not be adopted.

Please call me at (916)255-3087 or Jerry Bruns at (916)255-3093 if you have any questions regarding these comment.

Response to: CTR-051-003b

See responses to CTR-002-007b and CTR-051-003a.

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Comment ID: CTR-052-002b

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: SC

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-01 Mercury

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES C-22

G-09

G-05

G-04

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Comment: EPA will recall the State Water Quality Plans Task Forces that included all stakeholders, including EPA. The Authority appreciates the incorporation of many of the consensus recommendations from the Task Forces into the CTR, including:

\* Adoption of the metals criteria as dissolved concentrations and the expression of the criteria as a function of the water-effect ratio

\* Adoption of the proposed new human health criterion for mercury

\* Preamble discussions regarding metals translators, mixing zones, and interim permit limits

Response to: CTR-052-002b

EPA acknowledges the commenter's support of the consensus recommendations.

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Comment ID: CTR-053-003a

Comment Author: Heal the Bay

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-01 Mercury

References: Letter CTR-053 incorporates by reference letter 6 and the comments on Dioxin, copper, and the compliance schedule from letter CTR-002

Attachments? N

CROSS REFERENCES C-02b

C-09a

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Comment: In spite of our lack of detailed comments for specific criteria, we have concerns regarding any weakening of California's previously developed standards, particularly those for mercury and copper. Also, we question the absence of criteria for dioxin and dioxin-like compounds. In order to ensure these issues are considered in future improvements of the Rule, we incorporate by reference the comments of the Natural Resources Defense Council regarding mercury, and the comments of Communities for a Better Environment ("CBE") regarding dioxin compounds and copper.

Response to: CTR-053-003a

With respect to the comment on mercury see responses to CTR-002-007b and 006-001b. With respect to the comments on copper and dioxin see response to CTR-002-003.

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Comment ID: CTR-054-003

Comment Author: Bay Area Dischargers Assoc.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-01 Mercury

References:

Attachments? Y

CROSS REFERENCES

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Comment: BADA supports the adoption of the proposed new human health criterion for mercury. Several of the BADA agencies would have serious attainability problems with the old EPA human health criteria for mercury, whereas none have a problem with the criteria proposed in the CTR. Although we concur with environmental groups testifying at the September 17 hearing that mercury is a major

problem, there is little to be gained through more stringent regulation of point sources. Mercury levels of concern in water and tissue are largely the result of unregulated nonpoint sources, namely abandoned mines and downstream sediments. The way to address mercury is through the watershed management approach and control of nonpoint sources. BADA's support for the new mercury criteria is not meant to imply that BADA agencies are unwilling to implement reasonable source controls aimed at reducing mercury levels in our discharges or to participate in watershed management studies aimed at reducing nonpoint sources of mercury. On the contrary our agencies support and are committed to such activities.

Response to: CTR-054-003

EPA acknowledges the commenter's support of the rule and proposed mercury criterion.

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Comment ID: CTR-056-003

Comment Author: East Bay Municipal Util. Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: C-01 Mercury

References: Letter CTR-056 incorporates by reference letter CTR-054

Attachments? N

CROSS REFERENCES

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Comment: Second, EBMUD would like to express to EPA its support for inclusion of:

\* The revised human health criterion for mercury based on data from more current research than for the National Toxics Rule criteria,

Response to: CTR-056-003

EPA acknowledges the commenter's support of the proposed mercury criterion.

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Comment ID: CTR-058-010

Comment Author: Western States Petroleum Assoc

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-01 Mercury

References:

Attachments? Y

CROSS REFERENCES

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Comment: Mercury. WSPA concurs with EPA that mercury BAFs for a particular water body is highly dependent on the amount of organic mercury in that system. At this time WSPA supports the use of the BCFs until a more representative estimate of BASFs in permanent water bodies in California can be

established.

Response to: CTR-058-010

EPA agrees with these comments supporting a five year compliance schedule.

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Comment ID: CTR-059-009

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-01 Mercury

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES

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Comment: Mercury Human Health Criteria

EPA has proposed human health criteria for mercury for consumption of water and organisms (0.05 ug/L) and for consumption of organisms only (0.051 ug/L). We have a number of concerns about these criteria and recommend that EPA defer adoption or revise them for the final rule.

First, we can find no basis for the range of Bioconcentration Factors (BCFs) listed in the CTR Administrative Record Matrix (ARM). The ARM lists BCFs for mercury ranging from 3,765 to 9,000. No specific references are provided in the 1986 criteria document (the "Gold Book") for mercury for the derivation of the BCFs. EPA should provide information on the scientific basis for the derivation of the BCFs used to derive the mercury criteria. The discussion in the Preamble (p. 42179) indicates that there are three different BCFs for fresh water, estuarine waters, and the open ocean. This indicates that it would be most appropriate to calculate separate criteria for each type of water (i.e. fresh, estuarine, and ocean). More to the point, the Preamble also indicates that methylation rates vary widely from one aquatic system to another, thus making it difficult to know the actual potential for bioaccumulation in surface waters in California (p. 42180). Therefore, we believe that for mercury it is necessary for EPA to derive California-specific BCFs for different types of water bodies before adopting human health criteria for mercury in the CTR. At a minimum, separate freshwater and estuarine criteria should be developed. Alternatively, EPA could defer to the State for adoption of appropriate regional or site-specific mercury criteria by RWQCBs using local fish tissue concentration data.

Response to: CTR-059-009

The scientific basis for the range of BCFs is stated in the 1980 ambient water quality criteria document for mercury (Report No. EPA 440/5-80-058), which was part of the CTR Administrative Record Matrix. EPA acknowledges the comment on the differences between types of water bodies (i.e., fresh, estuarine, and ocean) and the Agency is currently evaluating the need to develop separate BAFs for such different water body types. For further response to the bioaccumulation issue, refer to response to CTR-002-007b.

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Comment ID: CTR-060-008  
Comment Author: San Diego Gas and Electric  
Document Type: Electric Utility  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: PROVISIONS SDG&E DOES NOT SUPPORT

As described in the following comments SDG&E does not support the following provisions:

Mercury human health criteria is technically deficient

The mercury human health criterion has used unrealistic assumptions in developing the criterion, including: \* the Bioconcentration Factor (BCF) used in calculating the criterion assumes a steady state condition between the mercury concentrations in the water column and fish. The preamble itself acknowledges that there is significant variability in the ratio of water column to fish concentrations (see 62 Fed. Reg. at 42,180, Cols. 1-2). Consequently, EPA should not endorse the use of a single BCF for all California waters. \* the BCFs were developed primarily on the basis of species from the Eastern half of the United States and the Atlantic Ocean (e.g., sardines) (See Ambient Water Quality Criteria for Mercury, EPA 440/5-80-058, October 1980) and are not valid for use in the California proposal.

EPA should delay promulgation of a mercury human health criterion until the Science Advisory Board (SAB) Subcommittee comments on EPA's report to congress on mercury

EPA has formed a SAB Subcommittee to comment on its draft Mercury Report to Congress. This Subcommittee is reviewing the fate and transport of mercury which are important factors in developing the mercury human health criterion. EPA should postpone the adoption of the proposed CTR criterion until the final report from this committee is available so that the SAB's findings can be reviewed and incorporated into the CTR criterion.

Response to: CTR-060-008

EPA acknowledges the complexity of issues associated with steady state assumptions when calculating criteria. EPA also believes that it has used appropriate assumptions based on the best methodologies currently in-place. EPA is currently working to enhance its methodology to address these complex issues. Further, once EPA develops the BAF-based human health water quality criteria, EPA will work with the State of California to adopt either that recommended value or a value that is consistent with the final methodology. For additional discussion, refer to responses on CTR-002-007b, CTR-030-007, and CTR-041-004.

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Comment ID: CTR-061-012  
Comment Author: G. Fred Lee & Associates

Document Type: Academia  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: Page 42168, third column, first paragraph, states, "The mercury criteria also differ in this proposal due to the Agency's movement away from aquatic life criteria based on the Final Residue Value (FRV) procedure of the 1985 Guidance." It has been learned that the proposed CTR's apparent raising of the Hg criterion for protection from excessive bioaccumulation from the current 12 ng/L to 50 ng/L total mercury is only temporary. The regulation of Hg is under review at the national level. The Agency should have indicated to the regulated community in the proposed CTR that the total Hg criterion for prevention of bioaccumulation will likely decrease from the current 12 ng/L set forth in the "Gold Book" to about 5 ng/L. This revised Hg criterion will cause most domestic wastewater discharges to be in violation of this criterion.

Rather than trying to regulate Hg in wastewater effluents and other sources based on the exceedance of the total Hg criterion to prevent excessive Hg bioaccumulation in edible fish tissue, Hg should be regulated based on excessive Hg concentrations in fish tissue. It is technically invalid to assume, as the US EPA has been assuming and proposes to continue to assume, that there is a constant bioconcentration factor that relates the total concentration of Hg in water to excessive Hg concentrations in fish tissue. The actual bioconcentration of total Hg is highly site-specific. To require that all POTWs and other dischargers or sources of Hg have no more than 5 ng/L in the discharge will grossly over-regulate Hg from many sources.

Response to: CTR-061-012

EPA notes that this response addresses what the commenter believes will be the national criteria recommendations for mercury and human health. EPA disagrees that the proposed criterion for mercury is inappropriate. The Mercury Study Report To Congress has been published and an Agency Mercury Action Plan is being developed. EPA has also begun work to develop a new criterion for mercury that will be based on the Mercury Study Report To Congress and upcoming proposed revisions to the human health methodology. In addition, EPA is evaluating the complexity of determining the BAF and how best to express its value for criteria-setting purposes.

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Comment ID: CTR-066-008  
Comment Author: Delta Diablo Sanitation Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Our preliminary review of the CTR finds several areas that we believe are positive changes and will enhance the rulemaking. The areas that we support as now written are as follows:

\* The revised human health criterion for mercury.

Response to: CTR-066-008

EPA acknowledges the commenter's support of the proposed mercury criterion.

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Comment ID: CTR-081-002f

Comment Author: West County Agency

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-01 Mercury

References:

Attachments? N

CROSS REFERENCES G-04

C-24a

G-02

C-22

G-09

C-08a

G-05

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Comment: \* There are many aspects of the CTR that we support. These include: a) Application of interim limits while special studies are performed. b) Approach to water effect ratios for determining site specific criteria. c) Inclusion of provision for compliance schedules. However, this should be modified to allow inclusion of compliance schedules of up to 15 years in permits if deemed appropriate by Regional Boards. d) Metals criteria expressed as dissolved rather than total recoverable concentrations. e) EPA's guidance to Regional Boards regarding use of translators. f) EPA's proposal to create a rebuttal presumption for Water Effects Ratios, g) Revised human health criteria for mercury h) Decision to not promulgate human health criteria at this time in light of issues surrounding health criteria for arsenic. i) EPA's policies regarding application of mixing zones and dilution credits.

Response to: CTR-081-002f

EPA acknowledges the commenter's support of the proposed rule.

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Comment ID: CTR-085-009

Comment Author: Camarillo Sanitary District

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/24/97  
Subject Matter Code: C-01 Mercury

References:

Attachments? N

**CROSS REFERENCES**

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Comment: On several aspects of the California Toxics Rule, the District is in agreement with CASA and SCAP comments:

\* The revised human health criterion for mercury.

Response to: CTR-085-009

EPA acknowledges the commenter's support of the proposed mercury criterion.

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Comment ID: CTR-086-002

Comment Author: EOA, Inc.

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org: California Dent

Document Date: 09/26/97

Subject Matter Code: C-01 Mercury

References: Letter CTR-086 incorporates by reference letter CTR-035

Attachments? N

**CROSS REFERENCES**

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Comment: CDA is a strong supporter of water quality and human health protection. CDA's primary goals in commenting on the draft CTR are to request that mercury criteria be based on sound science and that mercury regulation be implemented via a watershed management, phased TNML-type approach.

CDA is particularly concerned that the CTR does not adequately assess the economic impacts on indirect dischargers nor the extent to which there will be measurable water quality benefits solely from adoption of the proposed mercury criteria for point sources.

**Mercury Criteria**

CDA supports the proposed revised human health criteria for mercury based on updated IRIS information. CDA also supports EPA's decision (p. 42180) not to apply the bioaccumulation factor (BAF) developed for the Great Lakes Initiative to the CTR mercury criteria. We agree that mercury methylation rates vary widely and are not well understood, particularly for amalgam-related mercury. We believe that adoption of a national BAF under consideration as part of the "Mercury Study Report to Congress: SAB Review Draft" is inappropriate for California, particularly for the complex San Francisco Bay system. CDA recommends that EPA direct the State to develop a site specific objective (SSO) for mercury for San Francisco Bay based on a site specific BAF and data on natural cleanup processes and methylation processes. The proposed CTR criteria should serve as interim criteria until the SSO is developed and adopted.

Response to: CTR-086-002

EPA agrees with the commenter's support of the proposed mercury criterion. EPA encourages the State or Tribe to utilize site-specific information on bioaccumulation when available to calculate criteria. For additional discussion on the complexity of BAF use in the mercury criterion, refer to response on this issue in CTR-041-004.

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Comment ID: CTR-089-001b  
Comment Author: Las Virgenes Mncpl Water Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? N  
CROSS REFERENCES C-22  
C-08a  
G-05  
K-01  
G-02  
G-09

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Comment: The draft California Toxics Rule (CTR) is clearly the product of substantial effort by USEPA staff, and we applaud this effort and its intent. On several issues of concern to public utilities, the CTR strikes a good balance between the need to promulgate standards and the need to base those standards on sound science. Examples include the use of dissolved concentrations rather than the total recoverable concentrations for metals, the deferral of human health criteria for arsenic until adequate information is available, and the revision of the human health criterion for mercury. We are also pleased with the CTR's guidance and flexibility, on mixing zones and dilution credits, total maximum daily loads (TMDLs), compliance schedules, and translators.

Response to: CTR-089-001b

EPA acknowledges the commenter's support of the proposed rule.

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Comment ID: CTR-091-001a  
Comment Author: Abu-Saba, Ganguli, Flegal  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org: Coastal Advocates  
Document Date: 09/25/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: This comment addresses the mercury criteria for continuous concentration (CCC) proposed in

40 CFR, part 13 1(\*1). The proposed aquatic health and human health criteria do not protect aquatic life or humans from mercury contamination. This is demonstrated by the scientific data presented herein. That information includes published and unpublished results from scientists with established reputations in environmental research.

The aquatic life mercury CCC is proposed to be raised sixty-fold, from the National Toxics Rule standard of 0.012 micrograms per liter (ppb) to 0.770 ppb. The human health criteria is proposed to be raised four-fold, from 0.012 ppb to 0.050 ppb. These proposed changes have potentially devastating economic and environmental costs that must be included in the EPA's cost-benefit analysis. Water treatment costs for the metals mercury, silver, and chromium account for 30% of costs projected in the, California Toxics Rule (CTR) economic analysis.(\*2) However, the long term environmental and economic cost of mercury contamination may far exceed the short term economic savings resulting from an increase in the mercury CCC. This is especially true in California, a mining state that has devoted hundreds of millions of dollars to restoration and enhancement of commercial and sport fisheries by enactment of Proposition 204.

Four specific points are substantiated by data and literature: (1) California should maintain the National Toxics Rule standard of 0.012 ppb for protection of both aquatic life and human health; (2) The proposed increase in CCC standards do not protect against uncontrolled point-source releases; (3) The proposed criteria of 0.77 ppb (aquatic life) and 0.050 ppb (human health) were derived using assumptions about mercury bioconcentration that are not scientifically justified ; and (4) Wetlands may require even more protective measures than open waterways.

The proposed aquatic life CCC offers no protection from mercury point sources, such as the acid mine drainage shown in Figure 1. The data from San Carlos Creek, above and below the New Idria mercury mine in San Benito County, California, indicate that this mine, which was at one time the second largest producer of mercury in North America(\*3), represents an uncontrolled point source mercury release(\*4). Acidic water from the abandoned mine mixes with the waters of San Carlos Creek, leading to elevated mercury concentrations below the mine opening.

Figure 2 shows dissolved mercury concentrations upstream and downstream of the mine opening. The existing standard, 0.012 parts per billion (shown by the heavy, black horizontal line), distinguishes between background mercury concentrations (upstream) and point source mercury contamination (downstream). The low concentrations from the two upstream stations reflect natural ambient dissolved mercury concentrations resulting from water drainage through mercury ore deposits in that region(\*5). The elevated concentrations downstream of the mine opening clearly exceed the National Toxics Rule mercury criteria. The proposed 0.77 ppb criteria, shown in Figure 3, would not distinguish between natural ambient upstream water and the contaminated water downstream from the mine.

The aquatic life CCC is more than two times greater than concentrations toxic to aquatic life. A water concentration as low as 0.3 ppb inhibits invertebrate reproduction and egg hatching success, and impairs fish physiology(\*6). Although the lower human health criteria of 0.05 ppb would apply to essentially all California surface waters(\*7), establishment of an aquatic life criteria above toxic effect levels sets a poor precedent for environmental protection.

The New Idria mine is but one example of mercury point source contamination within the State of California; there are many others. Mercury contamination is part of this state's mining legacy(\*8). Historically, cinnabar (mercury, sulfide) was mined in California from New Idria, New Almaden, and other mines, and purified to elemental mercury (quicksilver). Thousands of tons of quicksilver were used to amalgamate gold and silver during the late 1800's. It is estimated that 0.3 to 3 kg of mercury was lost,

via volatilization and spillage, for every ton of gold recovered during this period.(\*8)

Recent measurements(\*9) from California lakes, including Clear Lake, Davis Creek Reservoir, and Lake Nacimiento indicate that dissolved mercury concentrations were twenty to fifty times lower than the proposed human health criteria of 0.05 ppb. However, in each lake largemouth bass contained part per million tissue mercury concentrations which exceeded the National Academy of Sciences guideline for acceptable mercury concentrations in fish.

Part per trillion mercury concentrations in water may be magnified a million-fold, to health-threatening, part per million mercury concentrations in fish. The form of mercury which is most readily bioaccumulated is methylmercury, a form of organic mercury which is produced by bacterial metabolism. Organomercury compounds are highly toxic. Karen Wetterhahn, the prominent Dartmouth researcher who was recently studying mercury toxicity, spilled two drops of dimethylmercury on her hand. Three months later she died from neuralgic damage resulting from acute mercury poisoning(\*10) (Figure 5). The disaster in Minimata Bay, Japan, resulted from bacterial conversion of inorganic mercury to methylmercury, and its subsequent bioconcentration.(\*11) Birth defects and infant mortality were directly linked to consumption of contaminated fish which had accumulated organomercury.

Methylmercury accumulates in proteins and lipids(\*12). So at each subsequent trophic level in a food web, the tissue concentration of mercury increase(\*13). Figure 4 illustrates mercury bioconcentration in a very simple, three-tiered food chain. Methylmercury in water is bioconcentrated by plankton, at the base of the food chain.(\*14) Subsequent bioconcentration occurs as plankton are consumed by filter feeders, and again as the filter feeders are consumed by higher level predators. This is a simple food chain example; bioconcentration increases with increasing food web complexity and increasing numbers of trophic levels.

Figure 4 also highlights the importance of mercury in sediments. Sediment-bound mercury can serve as an additional source to filter feeders, as these zones represent the primary location of microbially mediated mercury-methylation in aquatic systems(\*15). Wetlands and marshes may be particularly susceptible to mercury pollution. These areas typically have shallow water columns and a large inputs of organic matter to the sediment, which leads to enhanced bacterial activity and subsequently greater mercury-methylation rates(\*15). Further, wetlands and marshes provide breeding habitat for diverse populations of fish, birds, and reptiles, and hence, are composed of tightly knit, complex food webs. The susceptibility of these types of environments to mercury pollution has been demonstrated in the Florida Everglades, where low dissolved mercury concentrations result in high concentrations in top level predators, including panthers and sport fish(\*16,17,18).

The ratio of the mercury concentration in an organism to the mercury concentration in the organism's ambient water is defined as the bioconcentration factor(\*19). Assumptions about the bioconcentration factor are critical to the way the currently proposed human health criteria were derived, because the principle dose of mercury to humans is attributed to contaminated fish. So the appropriate criteria depend on the accepted value of the mercury bioconcentration factor.

Table I compares the bioconcentration factors used in the currently proposed criteria to bioconcentration factors derived from recent research. The practical bioconcentration factor of 7342.6 used in the proposed water quality standards was derived from research that is now almost two decades old. Most mercury data, particularly aqueous dissolved mercury measurements, generated prior to 1988 are suspect. Technological advances in mercury quantification and the establishment of trace metal clean sampling procedures made it possible to accurately measure environmentally relevant mercury concentrations in water(\*20,21). The EPA has recently recognized the need for adequate analytical methods and trace

metal clean techniques(\*22,23,24). The 1980 bioconcentration factors were derived before trace metal clean techniques for mercury analysis were established. If the dissolved mercury concentration is overestimated due to contamination, the bioconcentration factor will be underestimated.

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To summarize, the proposed human health mercury CCC (0.05 ppb) does not sufficiently safeguard human health from mercury contamination. and the proposed aquatic life mercury CCC (0.77 ppb) offers no protection to aquatic life. The aquatic life CCC does not distinguish between contaminated and uncontaminated waters, and is two times higher than published toxic effect levels for mercury(\*6). Even though the human health criteria will apply in California(\*1,7), the 0.77 ppb criteria for protection of aquatic life sets a dangerous national precedent. In California, mercury concentrations twenty to fifty times lower than the proposed human health criteria lead to elevated concentrations in sport-fish. The aquatic life and human health criteria are based on faulty assumptions about mercury bioconcentration factors in the environment. Using bioconcentration factors appropriate to California would result in much lower mercury water quality criteria.

We ask that Region Nine of the Environmental Protection Agency maintain the established National Toxics Rule standard of 0.012 ppb. Furthermore, we strongly suggest that adequate regulation of mercury consider microbial mercury-methylation potentials and evaluate food web complexity to develop site-specific criteria.

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- (\*7) Wood, P. United States Environmental Protection Agency. Personal communication at hearing for public comment on proposed California Toxics Rule, September 17, 1997, EPA Region Nine offices, San Francisco, California.
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- (\*10) Time, 149, June 23, 1997, p. 29
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- (\*13) Boudou, A.; Ribeyre, F. In Mercury and its Effects on Environment and Biology; Sigel, A.; Sigel H. Eds.; Metal Ions in Biological Systems. Vol. 34; Dekker: New York, 1997. Chapter 10, Mercury in the Food Web: Accumulation and Transfer Mechanisms.
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- (\*17) Roelke M.; Schultz D.; Facemire C.; Sundlof S.; Royals H. Mercury contamination in Florida panthers. Gainesville, FL, Florida Game and Freshwater Fish Commission report, 1991.
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(\*22) Guidance on the Documentation and Evaluation of Trace Metals Data Collected for Clean Water Act Compliance Monitoring. U. S. Environmental Protection Agency, Office of Water, Engineering and Analysis Division; U.S. Government Printing Office: Washington, D.C., 1995; EPA-821-B-95-002.

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(\*25) Regional Monitoring Program 1995 Annual Report; San Francisco Estuary Institute: Richmond, California.

Response to: CTR-091-001a

Regarding the protectiveness of the mercury criteria, refer to responses in CTR-029-002b, CTR-030-007 and CTR-051-003a. EPA recognizes the significance of the accumulation of toxic chemicals, particularly bioaccumulatives, in our nation's sediments. For this reason, EPA is in the process of developing "Equilibrium Partitioning Sediment Guidelines" for use in identifying contaminated sediments which are potentially toxic to benthic organisms. These chemical guidelines are calculated based on the organic carbon content of the sediment for nonionic organic chemicals and acid volatile sulfide content for divalent cationic metals. At this time, EPA has developed guidance for the calculation of bioaccumulation factors (BAFs) for a variety of chemicals. The BAFs are used to ensure that protective levels of water column contaminants are established. BAFs are based on the freely dissolved concentration of the bioaccumulative chemical, such as mercury. The use of BAFs, particularly those calculated based on field data, will provide a mechanism to address the accumulation of chemicals in organisms at higher trophic levels in the food web. For further discussion, refer to the response to CTR-002-007b.

EPA is also currently working to enhance its methodology to address the complex BAF issues. Further, once EPA develops the BAF-based human health water quality criteria, EPA will work with the State of California to adopt either that recommended value or a value that is consistent with the final methodology. By 2003, EPA will promulgate revised criteria for California for mercury based on a BAF for the protection of human health. As part of this process, EPA will evaluate all available published information, including data originating in California.

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Comment ID: CTR-091-001b

Comment Author: Abu-Saba, Ganguli, Flegal

Document Type: Environmental Group

State of Origin: CA

Represented Org: Coastal Advocates

Document Date: 09/25/97  
Subject Matter Code: C-01 Mercury

References:

Attachments? N

## CROSS REFERENCES

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Comment: This comment addresses the mercury criteria for continuous concentration (CCC) proposed in 40 CFR, part 13 1(\*1). The proposed aquatic health and human health criteria do not protect aquatic life or humans from mercury contamination. This is demonstrated by the scientific data presented herein. That information includes published and unpublished results from scientists with established reputations in environmental research.

The aquatic life mercury CCC is proposed to be raised sixty-fold, from the National Toxics Rule standard of 0.012 micrograms per liter (ppb) to 0.770 ppb. The human health criteria is proposed to be raised four-fold, from 0.012 ppb to 0.050 ppb. These proposed changes have potentially devastating economic and environmental costs that must be included in the EPA's cost-benefit analysis. Water treatment costs for the metals mercury, silver, and chromium account for 30% of costs projected in the, California Toxics Rule (CTR) economic analysis.(\*2) However, the long term environmental and economic cost of mercury contamination may far exceed the short term economic savings resulting from an increase in the mercury CCC. This is especially true in California, a mining state that has devoted hundreds of millions of dollars to restoration and enhancement of commercial and sport fisheries by enactment of Proposition 204.

Four specific points are substantiated by data and literature: (1) California should maintain the National Toxics Rule standard of 0.012 ppb for protection of both aquatic life and human health; (2) The proposed increase in CCC standards do not protect against uncontrolled point-source releases; (3) The proposed criteria of 0.77 ppb (aquatic life) and 0.050 ppb (human health) were derived using assumptions about mercury bioconcentration that are not scientifically justified ; and (4) Wetlands may require even more protective measures than open waterways.

The proposed aquatic life CCC offers no protection from mercury point sources, such as the acid mine drainage shown in Figure 1. The data from San Carlos Creek, above and below the New Idria mercury mine in San Benito County, California, indicate that this mine, which was at one time the second largest producer of mercury in North America(\*3), represents an uncontrolled point source mercury release(\*4). Acidic water from the abandoned mine mixes with the waters of San Carlos Creek, leading to elevated mercury concentrations below the mine opening.

Figure 2 shows dissolved mercury concentrations upstream and downstream of the mine opening. The existing standard, 0.012 parts per billion (shown by the heavy, black horizontal line), distinguishes between background mercury concentrations (upstream) and point source mercury contamination (downstream). The low concentrations from the two upstream stations reflect natural ambient dissolved mercury concentrations resulting from water drainage through mercury ore deposits in that region(\*5). The elevated concentrations downstream of the mine opening clearly exceed the National Toxics Rule mercury criteria. The proposed 0.77 ppb criteria, shown in Figure 3, would not distinguish between natural ambient upstream water and the contaminated water downstream from the mine.

The aquatic life CCC is more than two times greater than concentrations toxic to aquatic life. A water concentration as low as 0.3 ppb inhibits invertebrate reproduction and egg hatching success, and impairs fish physiology(\*6). Although the lower human health criteria of 0.05 ppb would apply to essentially all

California surface waters(\*7), establishment of an aquatic life criteria above toxic effect levels sets a poor precedent for environmental protection.

The New Idria mine is but one example of mercury point source contamination within the State of California; there are many others. Mercury contamination is part of this state's mining legacy(\*8). Historically, cinnabar (mercury, sulfide) was mined in California from New Idria, New Almaden, and other mines, and purified to elemental mercury (quicksilver). Thousands of tons of quicksilver were used to amalgamate gold and silver during the late 1800's. It is estimated that 0.3 to 3 kg of mercury was lost, via volatilization and spillage, for every ton of gold recovered during this period.(\*8)

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(\*25) Regional Monitoring Program 1995 Annual Report; San Francisco Estuary Institute: Richmond, California.

Response to: CTR-091-001b

EPA will address this concern as part of its mercury re-assessment -- as it relates to bioaccumulation. See responses to CTR-002-007b and CTR-091-001a.

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Comment ID: CTR-095-002a

Comment Author: M. Ruth Uiswander

Document Type: Citizen

State of Origin: CA

Represented Org:

Document Date: 10/02/97

Subject Matter Code: C-01 Mercury

References:

Attachments? N

CROSS REFERENCES

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Comment: Also, the rules pertaining to mercury, fail to take into account the bioaccumulation of mercury in fish tissue. Studies done in the Gr. Lakes show that bioaccumulation is 4 to 20 times greater than what the EPA estimates for California.

Response to: CTR-095-002a

Regarding the issue on mercury bioaccumulation, refer to the response to CTR-002-007b.

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Comment ID: CTR-095-002b  
Comment Author: M. Ruth Uiswander  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/02/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Also, the rules pertaining to mercury, fail to take into account the bioaccumulation of mercury in fish tissue. Studies done in the Gr. Lakes show that bioaccumulation is 4 to 20 times greater than what the EPA estimates for California.

Response to: CTR-095-002b

See response to CTR-002-007b.

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Comment ID: CTR-104-002a  
Comment Author: Lucy Nelson, et. al.  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/15/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? N  
CROSS REFERENCES C-14

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Comment: Proposed mercury standards fail to account for bioaccumulation of mercury in fish tissue. Mercury is amassed through their consumption of food.

Response to: CTR-104-002a

Regarding the issue on mercury bioaccumulation, refer to the response to CTR-002-007b.

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Comment ID: CTR-106-002a  
Comment Author: Robert Brown  
Document Type: Citizen  
State of Origin: CA

Represented Org:  
Document Date: 10/28/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? N  
CROSS REFERENCES C-14

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Comment: Proposed mercury standards fail to account for bioaccumulation of mercury in fish tissue. Mercury is amassed through their consumption of food.

Response to: CTR-106-002a

Regarding the issue on mercury bioaccumulation, refer to the response to CTR-002-007b.

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Comment ID: CTR-109-002a  
Comment Author: Maggie Miller  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 12/01/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? N  
CROSS REFERENCES C-14

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Comment: Second, the proposed mercury standards fall to account for the bioaccumulation of mercury in fish tissue. The proposed standard ignores mercury that enters fish through their own consumption of food.

Response to: CTR-109-002a

Regarding the issue on mercury bioaccumulation, refer to the response to CTR-002-007b.

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Comment ID: CTRH-001-003c  
Comment Author: Robert Hale  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: CA Stormwater Task Force  
Document Date: 09/17/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? N  
CROSS REFERENCES C-22  
C-24a

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Comment: In summing up -- not summing up, just as a parting shot -- I do appreciate the fact that in

working up the toxics rule here that EPA has done certain things which in fact we see as improvements in actually making the standards fit with what we think -- have come to see as perhaps the actual impacts of the stormwater part of this. And by that, I'm referring to the dissolved metals criteria and the water effect ratio in there, and the human health criteria revisions for mercury and the other -- the other items.

I appreciate some of the stuff in there, and -- with the exception of the preamble language. And you really need to get that out of there. We're going to pursue this as far as we have to.

I appreciate your hearing me.

Response to: CTRH-001-003c

EPA acknowledges the comments made and their support of the rule.

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Comment ID: CTRH-001-013

Comment Author: Greg Karras

Document Type: Public Hearing

State of Origin: CA

Represented Org: Comm. for Better Environ.

Document Date: 09/17/97

Subject Matter Code: C-01 Mercury

References:

Attachments? N

CROSS REFERENCES

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Comment: Issues on mercury:

Bay fisherpeople report eating more mercury-tainted fish than the state says is safe for developmental neurotoxicity. EPA proposes a weaker standard that allows these mercury pollution levels in the vast majority of the bay rather than reducing this harm.

EPA says it has itself weakened the standard because EPA doesn't know whether mercury bioaccumulates here as much as it bioaccumulates in the Great Lakes. San Francisco Bay data show that it does. Will EPA use these data?

Response to: CTRH-001-013

The commenter is incorrect regarding the proposed standard for the San Francisco Bay. The previous standard of 0.025 ug/L will remain in effect for the San Francisco Bay. The commenter is also incorrect about EPA's position regarding bioaccumulation. EPA did not suggest that it did not know if mercury bioaccumulated as much in the Bay as in the Great Lakes. Rather, EPA stated that the Great Lakes data were not appropriate for use in the Bay. EPA is evaluating available bioaccumulation data to determine its appropriateness for use in California. EPA is also currently working to enhance its methodology to address these complex issues. Further, once EPA develops the BAF-based human health water quality criteria, EPA will work with the State of California to adopt either that recommended value or a value that is consistent with the final methodology. Within the next several years, EPA or the State will promulgate revised criteria for California for mercury based on a BAF for the protection of human health. For additional discussion on mercury bioaccumulation, refer to the response to CTR-002-007b.

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Comment ID: CTRH-001-018a  
Comment Author: Khalil Abu-Saba  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: UCSC  
Document Date: 09/17/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: MR. ABU-SABA: Good afternoon. My name is Khalil Abu-Saba. I'm a graduate student in chemistry at the University of California, Santa Cruz. I want to thank Kathleen Van Velsor of Coastal Advocates for having me here to speak today.

Today we'd like to address mercury criteria for continuous concentration as proposed in the California Toxics Rule. The facts I'll be presenting today come from the interpretations of a number of scientists of established reputation in environmental research. In the written transcript of this speech, there are 20 references giving the names of those authors, who reviewed this presentation before I submitted it.

The mercury criteria for continuous concentration is proposed to be raised from the National Toxics Rule standard of 0.012 parts per billion up to 0.770 parts per billion. That is a 60-fold increase in the mercury criteria. We will present the facts showing that allowing that level of mercury in fresh water has potentially devastating economic and environmental consequences.

We will show why mercury regulation should consider particulate as well as dissolved concentrations and why wetlands may require even more protective measures than open waterways.

Finally, we will demonstrate how the proposed standard was derived using assumptions about mercury bioconcentration that are scientifically unsound.

First, let's compare the current National Toxics Rule standard to mercury concentrations downstream from a point source. The preliminary measurements for this stream were provided by Priya Ganguli and Russ Flegal of University of California Santa Cruz and Rob Mason of the Chesapeake Bay Laboratory of the University of Maryland.

The data come from San Carlos Creek, above and below the New Idria mercury mine in San Benito County. This mine, which was at one time the second largest producer of mercury in North America, represents an uncontrolled point source mercury release.

Acidic water from the abandoned mine mixes with the waters of San Carlos Creek, leading to elevated mercury concentrations below the mine opening. The brown water you see in this slide is from metals precipitated after the acid mine drainage mixes with the clear water of San Carlos Creek.

The next graph we'll be showing you will be the part-per-billion concentrations of filtered mercury above and below the mine opening. These are filtered mercury concentrations consistent with the promulgated standard.

The point of this graph is that the existing standard, 0.012 parts per billion, shown by the heavy, black horizontal line, distinguishes between background regional processes and point source contamination. The two lowest mercury concentrations on the left are from water samples upstream of the mine opening in clear water; those concentrations represent mercury concentrations in water which could result naturally from drainage of mercury ore deposits in that region.

The concentrations downstream of the mine opening, in the brown water you just saw, clearly exceed the current National Toxicity Rule standard of .012 parts per billion. In contrast, if we were to put the proposed continuous criteria concentration standard on the same scale with this graph, that standard would be two stories above our heads right now.

The next graph shows the same mercury concentrations from New Idria on scale with the proposed criteria of 0.77 parts per billion. Clearly, the proposed criteria does not distinguish between background processes and point source contamination. Mercury levels in the clear water and in the brown water are equal in the eyes of the proposed criteria.

That is the economic benefit that will be derived from raising limits on mercury in water. The citizens of California will be asked to ignore point source contamination of mercury. This is one example from within the State of California; there are many others.

Mercury contamination is part of our mining legacy in this state, we ignore it at our peril. In a 1990 publication in Environmental Science and Technology, Gary Gill and Ken Bruland show that Clear Lake, Davis Creek Reservoir, and Lake Nacimiento all had filtered mercury concentrations that were several hundred times lower than the 0.77 parts per billion proposed standard. Those lakes also had largemouth bass with part-per-million tissue mercury concentrations exceeding the National Academy of Sciences guideline for acceptable mercury concentrations in fish.

How are subpart-per-billion mercury concentrations in water magnified a million-fold to health-threatening part-per-million mercury concentrations in fish? To understand this, we have to recognize that not all mercury is created equal.

This is cinnabar or mercury sulfide. This is an example of inorganic mercury. This type of ore was mined in California at the New Idria and New Almaden mines, and roasted to make elemental mercury or quicksilver, which we're familiar with in the tip of a common thermometer.

Thousands of tons of elemental mercury were used to extract gold during the Gold Rush, distributing mercury throughout California. In the environment, bacterial action can convert inorganic mercury into organic mercury compounds, including methylmercury. The toxicity of mercury depends on its chemical form.

I didn't bring any organic mercury in today; it is too toxic to safely handle in public. I did bring in the obituary of Karen Wetterhahn. As most of you know, she was a prominent Dartmouth researcher who was studying mercury toxicity. This year, she spilled two drops of dimethylmercury on her hand. Three months later, she was dead from neurological damage resulting from acute mercury poisoning.

The disaster in Minimata Bay, Japan, resulted from bacterial conversion of inorganic mercury to methylmercury, and its subsequent bioconcentration.

Methylmercury accumulates in proteins, so at each level in a complex food web the tissue concentration

of mercury increases. This graph shows an example of mercury bioconcentration in a very simple, three-tiered food chain.

Methylmercury in water is bioconcentrated by plankton at the base of the food chain. Subsequent bioconcentration occurs as plankton are consumed by filter feeders, and again as the filter feeders are consumed by higher level predators. This is a simple food chain example; bioconcentration increases with increasing food web complexity.

This figure also highlights the importance of mercury in sediments. Sediment-bound mercury can serve as an additional source to filter feeders. Moreover, conversion of inorganic mercury to methylmercury is regulated by bacteria.

Extensive bacterial methylation occurs in sediments, which host bacterial communities. Wetlands and marshes are much more sensitive areas because intense bacterial activity leads to greater methylation rates, and because they have complex food webs.

This has already been demonstrated in the Florida Everglades, where relatively low dissolved mercury concentrations result in high concentrations in top-level predators, including panthers and sport fish.

Deriving a criteria for dissolved mercury alone and ignoring particulate mercury concentrations, bacterial metabolism, and ecosystem structure is inadequate to protecting the health of California citizens.

The magnification of mercury in water to tissue mercury can be qualified by a value referred to as bioconcentration factor. Assumptions about the bioconcentration factor are critical to the way the proposed criteria was derived because the primary source of mercury to humans is attributed to contaminated fish. So the appropriate criteria, depends on what we accept as a reasonable value for the mercury bioconcentration factor.

The bioconcentration factor of mercury is simply defined as the ratio of the mercury concentration in an organism to the mercury concentration in the organism's surrounding waters, just tissue mercury over water mercury.

In the justification of the proposed criteria, this table compares the bioconcentration factors used in the proposed criteria to bioconcentration factors developed from more recent research. The bioconcentration factor of 7,300 as used in the proposed criteria was derived from research now almost two decades old.

All mercury data and in particular water measurements generated prior to 1988 are suspect. The methods published in 1988 by Bloom and Fitzgerald, and the establishment of trace metal clean sampling procedures to avoid contamination made it possible to measure environmentally relevant concentrations of mercury in water.

The EPA has recognized in their own publications the need for adequate analytical methods and trace metal clean techniques. This is EPA method 1631, mercury in water by cold vapor atomic fluorescence spectrometry, April 1995. This is EPA method 1669, sampling ambient water for EPA water criteria levels. This method 1669 describes how to avoid contamination in trace metal analysis.

The 1980 bioconcentration factors used to derive the proposed criteria come from data generated before trace metal clean techniques were established. If you overestimate the water mercury concentration due to contamination, you will underestimate the bioconcentration factor, because the dissolved concentration appears here in the denominator.

In the Federal Register discussion of the bioconcentration factors, values derived from the Great Lakes initiative are dismissed, "because it is uncertain whether the bioaccumulation factors of 28,000 and 140,000 are appropriate for use in California at this time." That's a quote from the Federal Register.

We can compare the relevance of these bioconcentration factors by examining field data from California, as Greg Karras suggested. In 1995, the San Francisco Bay regional monitoring program reported tissue concentrations in bivalves that averaged 0.2 parts per million.

At the same time, quantifiable dissolved mercury values ranged from 0.001 to 0.003 parts per billion. If you just plug those numbers into the formula for bioconcentration factor, you get a bioconcentration factor between 60,000 and 200,000.

In the Gill and Bruland study of mercury in California lakes, tissue and dissolved mercury concentrations lead to a bioaccumulation factor between 300,000 and 800,000. Clearly, the bioconcentration factor of 7,300 used to derive the proposed standard is not appropriate to California.

To summarize, the proposed mercury standard of 0.77 parts per billion does not distinguish between contaminated and uncontaminated waters. The proposed standard is based on faulty assumptions about mercury bioconcentration in the environment.

The potential economic costs of this legislation far exceed any perceived benefits from ignoring mercury contamination. For example, one of the goals of Proposition 204 is the protection and enhancement of commercial and sport fishing in the State of California. To that end, hundreds of millions of dollars have been committed to water quality improvement and habitat restoration. A 60-fold increase in the permissible mercury limits can only hinder these goals.

We ask that Region 9 of the Environmental Protection Agency promulgating the California Toxics Rule maintain the established National Toxics Rule standard of 0.012 parts per billion. Furthermore, we strongly suggest that adequate regulation of mercury should incorporate particulate mercury concentrations and should consider the potential for bacterial activity and evaluate ecosystem complexity to develop site-specific criteria.

Response to: CTRH-001-018a

See response to CTR-002-007b.

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Comment ID: CTRH-001-018b  
Comment Author: Khalil Abu-Saba  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: UCSC  
Document Date: 09/17/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: MR. ABU-SABA: Good afternoon. My name is Khalil Abu-Saba. I'm a graduate student in chemistry at the University of California, Santa Cruz. I want to thank Kathleen Van Velsor of Coastal Advocates for having me here to speak today.

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To summarize, the proposed mercury standard of 0.77 parts per billion does not distinguish between contaminated and uncontaminated waters. The proposed standard is based on faulty assumptions about mercury bioconcentration in the environment.

The potential economic costs of this legislation far exceed any perceived benefits from ignoring mercury contamination. For example, one of the goals of Proposition 204 is the protection and enhancement of commercial and sport fishing in the State of California. To that end, hundreds of millions of dollars have been committed to water quality improvement and habitat restoration. A 60-fold increase in the permissible mercury limits can only hinder these goals.

We ask that Region 9 of the Environmental Protection Agency promulgating the California Toxics Rule maintain the established National Toxics Rule standard of 0.012 parts per billion. Furthermore, we strongly suggest that adequate regulation of mercury should incorporate particulate mercury concentrations and should consider the potential for bacterial activity and evaluate ecosystem complexity to develop site-specific criteria.

Response to: CTRH-001-018b

See response to CTR-002-007b.

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Comment ID: CTRH-001-050a  
Comment Author: Michael Lozeau  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: S.F. Bay/Delta Keeper  
Document Date: 09/17/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? N  
CROSS REFERENCES C-14

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Comment: For mercury, certainly I would concur with the previous comments, that the number should be -- that is appropriate is accumulation factors.

Now the bioconcentration factor, in deference to this state's consumption rates that have been determined are appropriate for California, I think using the average consumption rate for everyone in the country, by definition, lops off about half of the population. It seems to me that it doesn't account for those users of the bay who are the high consumption -- high fish-consumption users, which obviously there's a number of them, and that's not reflected in that average at all.

So I think that those bioaccumulation factors are important to the mercury number base data that we have for the bay for all the reasons stated earlier, and similarly for dioxin. It seems as if EPA would like to back away on that, the criteria that is listed.

Response to: CTRH-001-050a

Regarding the comments on mercury human health toxicity, see responses to CTR-006-002a and CTR-030-007. Regarding mercury bioaccumulation, see response to CTR-002-007b.

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Comment ID: CTRH-001-062  
Comment Author: Fred Lee  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org:  
Document Date: 09/17/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: The other point I want to make, we had a discussion about mercury today and that discussion doesn't address the issues properly. That discussion focused on the number -- I think it was .77 parts per billion, and that's not a human health criteria. That is the toxicity part. That's a dissolved mercury. As related to aquatic life, that number's about right.

Response to: CTRH-001-062

EPA acknowledges the comment.

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Comment ID: CTRH-001-063  
Comment Author: Fred Lee  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org:  
Document Date: 09/17/97  
Subject Matter Code: C-01 Mercury  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: In another part of the Federal Register promulgating the rule, there is a statement about -- for human health, the number is proposed to be 50 nanograms per liter -- going from 12 nanograms per liter, now the current gold book number, to 50 under these criteria. But if you go further and you ask what does that mean really? Do I think mercury is less toxic? No way.

What it's headed for is that within two to six months to a year, as state and federal rules on mercury are developed through the Science Advisory Board review, so forth, it's a pretty good chance that's going to drop, 3 to 5.

You should understand we're headed for 3 to 5 nanograms per liter for total mercury as a number to protect from excessive bioaccumulation. That's where we're headed.

I'll stop at this point.

Response to: CTRH-001-063

Regarding the comments on mercury human health toxicity, see responses to CTR-006-002a and CTR-030-007. Regarding mercury bioaccumulation, see response to CTR-002-007b.

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Subject Matter Code: C-02b Copper Aquatic Life

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Comment ID: CTR-002-008

Comment Author: Comm. for a Better Environment

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-02b Copper Aquatic Life

References:

Attachments? Y

CROSS REFERENCES

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Comment: Proposed copper criteria ignore San Francisco Bay data that show damage to sensitive populations at lower dissolved copper concentrations and led the state to reject criteria that deregulate total copper in its water quality criteria. The proposed rule states that: "New data including data collected from studies for the New York/New Jersey Harbor and the San Francisco Bay indicated a need to revise the copper criteria documents to reflect a change in the saltwater" criteria. In contrast to this statement, many scientists involved in review of the San Francisco Bay study reached a very different conclusion.

Many scientists commented during the state's review that the data did not necessarily support a revised copper criterion. EPA scientists raised many questions regarding: inadequate seasonal sampling; departure from standard testing recommendations; interpretation of toxicity test endpoints and precision; interpretation of widely varying responses; failure to measure dissolved copper in key bioassays and sites; overestimation of the amount of copper producing an effect; significant problems with algal test interpretation; confusion of acute versus chronic exposure; unmeasured effects of filtration; joint toxicity of copper with other metals; multiple stresses; bioaccumulation; and, generally, how lab results will "mimic environmental reality."(\*17)

Other scientists stated similar and stronger concerns, Dr. Michael Perrone commented that "there isn't a positive demonstration that dissolved copper is a good predictor" of environmental ion.(\*18) The state's Department of Fish and Game also stated that "[t]otal copper can become protect unbound and available for uptake by organisms" in comments voicing many of the concerns listed above, and recommended: "Retain the existing criteria of 2.9 ug/L as total copper."(\*19)

The weight of scientific opinion raised sufficient questions about how these laboratory studies "mimic environmental reality" to warrant analysis of field data. This showed species had responded to changes in Bay copper, and those bivalve shellfish and phytoplankton which are most vulnerable to copper toxicity were severely reduced in abundance although they once thrived here, and thrive in similar estuaries at dissolved copper levels of about 1 ug/L or less.(\*1) Comparison of high quality data between estuaries further demonstrated S.F. Bay copper pollution similar to other polluted estuaries, and dissolved copper levels below 1 ug/L in unpolluted or less polluted estuaries where these copper-sensitive species thrive.(\*2) There is a "reasonable probability" that copper levels in waters of the southern reach affect the ecosystem, and cutting copper pollution will likely benefit aquatic life.(\*1)

Therefore, the state's review of all of this evidence led to a decision to adopt a criterion for total copper that would require reduced copper concentrations. The fundamental rationale for this was that cutting copper pollution was necessary in order to ensure the protection of aquatic life. In contrast, EPA's

proposed 3.1 ug/L dissolved copper criterion, which would not require less copper in most Bay waters as shown in Table 4, and which allows dissolved copper three times levels at which sensitive estuarine species are known to thrive, cannot ensure the protection of Bay aquatic life based on sound scientific rationale.

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(\*1) U.S. Geological Survey, 1992. Letter from Samuel N. Luoma, Ph.D., to Steven R. Ritchie, Executive Officer, Regional Water Quality Control Board. August 24, 1992.

(\*2) Karras, 1992. Comparison of copper in waters of the southern reach of San Francisco Bay and ten other estuaries. Communities for a Better Environment (CBE). July, 1992.

(\*17) USEPA, 1992. Comments on the data presented in the Hansen Report. Includes cover letter from Maria Rea, Chief, Water Quality Standards Section, to Steven R. Ritchie, Executive Officer, Regional Water Quality Control Board, San Francisco Bay Region. July 15, 1992.

(\*18) California State Water Resources Control Board, 1992. Memorandum from Michael Perrone, Ph. D., to Lynn Suer, Ph.D., Regional Water Quality Control Board, re: Review of draft final report entitled "Development of site specific criteria for copper for San Francisco Bay." June 29, 1992.

(\*19) California Department of Fish and Game, 1992. Comments on the Draft Final Report Entitled "Development of site-specific criteria for copper for San Francisco Bay." Letter from John Turner, DFG, to Steven R. Ritchie, RWQCB. July 14, 1992.

Response to: CTR-002-008

EPA does not agree with the commenter's comment concerning a copper criterion of 1 ug/L. This issue was raised in 1992 when the San Francisco Bay Regional Water Quality Control Board (SF RWQCB) published its site-specific copper value (based on total copper). EPA agrees with the SF RWQCB's position, which it articulated in its October 21, 1992, "Responses to Comments - Site-specific Copper Objective" for the September 25, 1992, report titled "Revised Report on Proposed Amendment to Establish a Site-Specific Objective for Copper in San Francisco Bay". The SF RWQCB noted that the ambient concentrations in South San Francisco Bay were well above the 1 ug/L in Tomales Bay and then stated that, "the observation that some organisms are more abundant in Tomales Bay where concentrations are less than 1 ug/L does not mean that 1 ug/L is needed to insure protection of these organisms in San Francisco Bay." This would be setting a criterion "based on correlation rather than controlled experimentation, and does not account for the many other factors that can affect the distribution and abundance of organisms."

EPA believes that the weight of sound scientific evidence fully supports the protectiveness of its copper criterion. EPA does not consider the commenter's interpretation of reference 17 (1992 EPA comments on the site-specific modifications of the copper criterion for San Francisco Bay) relevant to the CTR copper criterion. The subject of reference 17 was not the CTR criterion, and the information available to EPA when it formulated its 1992 comments (the commenter's reference 17) was less than the information available to EPA in formulating the criterion in this rule. In its 1995 "Ambient Water Quality Criteria - Saltwater Copper Addendum", EPA examined the data available from the San Francisco Bay studies and utilized only the data with suitable quality into its revised national criterion (which was used in the CTR).

Concerning the comment about whether dissolved copper is a good predictor of environmental ion

(reference 18), EPA does not agree that such prediction is cogent. The intent of the copper criterion in the rule is to prevent copper toxicity, not to achieve any fixed concentration of free ionic copper.

Concerning the comment that "total copper can become unbound and available", EPA notes that unbound and available copper is covered by the criterion incorporated in the rule. Thus, EPA does not believe that this a concern. See also the response to CTR-026-004 concerning dissolved v. total recoverable metals criteria.

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Comment ID: CTR-020-011

Comment Author: City of Stockton

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-02b Copper Aquatic Life

References:

Attachments? Y

CROSS REFERENCES

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Comment: II. Use of New Scientific Information

The City acknowledges and supports EPA's update of several water quality criteria including those for mercury, cadmium and arsenic. While a number of criteria were updated to reflect current scientific information, there are a few notable exceptions.

The following briefly addresses the key updates and omissions that should be addressed in the final publication of this rule.

## B. Outdated Science

### 1. Copper

The proposed copper criteria do not reflect the expected toxicity of this pollutant in the environment and will result in unnecessarily restrictive requirements throughout the state. Although required by the National Guidelines, the copper criteria fail to include an adjustment to account for binding with organic material such as that expected to occur in storm waters and in treatment plant effluents that renders this pollutant non-toxic (see enclosed article, Exhibit 5). Application of the criteria as a dissolved standard will likely result in many facilities being identified as in violation of the criteria. Few storm waters are expected to meet the acute criteria due to low hardness of such waters. The City's storm water monitoring has indicated that such waters exceed the proposed acute criteria. The typical Total Organic Copper ("TOC") level present in storm waters (8-20 mg/l) is well above the 3 mg/l value specified in EPA's Copper Criteria Document as indicative of significant organic complexing and the need to modify the criteria. Consistent with the available technical data and criteria development guidelines, the copper criteria must be modified to address organic binding as part of the criteria to avoid classifying many dischargers as toxic threats when no such threat actually exists. The following identifies the scope of concerns regarding proper application of copper criteria and the technical information that demonstrates EPA's copper criteria routinely overestimate actual aquatic life threats.

(a) Introduction

No single issue in the development and application of water quality criteria for metals is of greater importance to NPDES permittees than the accurate assessment of aquatic toxicity of copper. The infrastructure of the nation's drinking water supply depends on copper and copper alloy pipes. Along with drinking water conveyance, copper chemicals are widely used for algae control in drinking water supplies and reservoirs. Because of the intimate association between copper and the nation's water supply, it is inevitable that some form of copper will be discharged in wastewater and present in storm waters.

EPA's current approach to copper regulation assumes that the toxic form of the metal exists in biologically treated effluents and storm waters even when all scientific information confirms that it does not. This assumption causes permittees to conduct expensive studies to correct the standard to reflect the lack of environmental threat present. This approach (1) is wasteful of local resources, constituting an unauthorized, unfunded mandate; (2) penalizes small communities which have both limited budgets and access to updated scientific approaches; (3) is inconsistent with EPA's statutory mandates and guidance; and (4) violates regulatory principles outlined in the President's "Reinventing Environmental Regulation" initiative. Because EPA's approach does not reflect reality and easily implemented, less costly approaches exist to properly regulate copper discharges, this criteria should be withdrawn or, at a minimum, narrowed in its application. The following summarizes the scientific and regulatory bases for withdrawal and reconsideration of laboratory-derived numerical water quality criteria for copper to biologically treated effluents.

First, existing copper criteria are not appropriate for biologically treated effluents or situations where elevated TOC levels are known to exist (the typical case where the criteria are applied) because the database used to derive this criterion did not consider the dramatic detoxification of copper by constituents commonly present in biological waste treatment systems. Second, laboratory studies, field surveys, and water effects ratios conducted by regulatory authorities and independent researchers all confirm that copper rapidly binds ("complexes") with organic and inorganic matter (e.g., phosphates) during biological waste treatment, thus rendering copper non-bioavailable and hence non-toxic to aquatic life. Third, all field studies conducted by EPA and state agencies confirm that copper in biologically treated effluents is not toxic to sensitive species which were used to establish the federal copper criteria. This demonstrates that biologically treated effluents eliminate copper toxicity and should pose no threat to resident species instream after mixing.

Briefly, the current body of laboratory research on the detoxifying effects of organic and inorganic matter on copper, including total organic carbon, particulate matter, humic and fulvic and amino acids, explains why scientific field studies consistently show that copper in biologically treated effluents, and by extension storm waters, is not expected to be toxic to aquatic life. Current copper criteria application to treated effluents and storm waters is not appropriate or necessary to protect aquatic life. Use of acute daphnid whole effluent toxicity tests would be sufficient to regulate copper at a level of protection equivalent to the national criteria for copper and eliminate the need for expensive WER analyses.

(b) EPA Must Follow Its Guidance

EPA's national guidance for Clean Water Act Section 304(a) criteria development requires all relevant factors regarding toxicity of a pollutant to be considered in establishing water quality criteria for that pollutant.<sup>(\*16)</sup> Because the current copper criteria are based on assessments of dissolved metal salts in laboratory water with little or no ability to complex copper, the commonly encountered dramatic detoxifying effect of treated effluent and other naturally existing substances present in storm waters were

not considered.

EPA guidance on implementing metals criteria expressly states that it is only the biologically available fraction of the metal that is intended to be regulated.(\*17) Although recent guidance from EPA specifying that metals criteria assessed as "dissolved" may be a better approximation of the toxic fraction under some circumstances, measurements of filterable "dissolved" copper in biologically treated effluents or in storm water samples with high (greater than 5 mg/l) TOC levels are, to a certainty, not relevant to assessing the toxic fraction of copper. Such measurements erroneously assesses non-toxic filterable organo-copper complexes as "dissolved" which is the form in which the metal will be discharged from these facilities or will preferentially exist in the environment. Because the vast majority of facilities that discharge copper utilize biological treatment, it is apparent that widespread misapplication of the copper criteria may result from use of a dissolved metals approach. Similarly, storm waters typically contain TOC levels equivalent to well treated municipal effluent (5-20 mg/l TOC).

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(\*16) Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and their Uses, USEPA (1985) (emphasis supplied).

(\*17) Interim Guidance on Interpretation and Implementation of Aquatic Life Criteria for Metals, USEPA (May 28,1992) ("Interim Guidance").

Response to: CTR-020-011

See response to CTR-020-012.

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Comment ID: CTR-020-012  
Comment Author: City of Stockton  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-02b Copper Aquatic Life  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: II. Use of New Scientific Information

The City acknowledges and supports EPA's update of several water quality criteria including those for mercury, cadmium and arsenic. While a number of criteria were updated to reflect current scientific information, there are a few notable exceptions.

The following briefly addresses the key updates and omissions that should be addressed in the final publication of this rule.

(e) Copper Criteria Development and Application

(1) Criteria Based on the Dissolved Metal Fraction Overestimate Bioavailable Copper

In 1992, the Pellston Conference of the Society for Environmental Toxicology and Chemistry recommended that water quality standards be established on the basis of bio-availability.(\*18) On May 28, 1992, EPA released the Interim Guidance on Interpretation and Implementation of Aquatic Life Criteria for Metals ("Interim Guidance"), a final policy which modified all prior Section 304(a) criteria documents for metals and implemented this recommendation. In issuing its Interim Guidance, EPA acknowledged that only the biologically available fraction of metals is responsible for aquatic toxicity, and therefore is the proper focus of permit limit derivation:

The principal issue is the correlation between metals that are measured and metals that are biologically available.(\*19)

In the Interim Guidance and contemporaneous correspondence, EPA acknowledged that expressing water quality criteria for metals as dissolved measurements is a conservative approach and that a state should consider further reductions in toxicity from complexing:

Alternatively, we are allowing States to apply criteria to dissolved metals only. However, we suspect that this may be a somewhat less accurate method of excluding "nontoxic" metal from regulation, because some dissolved metal exists in forms that have little toxicity (particularly copper, a pollutant of great concern to municipal dischargers)...(\*20)

Following the January 1993 Annapolis Conference on the development and implementation of metals criteria, EPA modified its criteria implementation guidance to use dissolved metal (i.e., filterable through a 0.45 u membrane) concentrations in setting water quality standards "because dissolved metal more closely approximates the bioavailable fraction of metal in the water column than does total recoverable metal.(\*21) Scientists at the Annapolis Conference emphasized that under certain circumstances, dissolved metal standards are conservative and may overstate the toxic fraction: "In some cases, even the dissolved concentration may overestimate the bioavailable fraction for metals that strongly complex to either inorganic or organic ligands (e.g., filterable carbon containing particles).(\*22) Because the dissolved approach erroneously equates all "filterable" dissolved copper to bioavailable copper, dissolved metals measurements overstate the toxic metal fraction in biologically treated effluents.

## (2) All Laboratory Studies Confirm Copper is Detoxified by Organic Substances in Sewage

The detoxifying influence of organic and inorganic complexation on copper was reported in EPA's 1984 Copper Criteria Document.(\*23) Among the heavy metals, copper is particularly amenable to complexation with organic and inorganic matter to render this metal non-bioavailable and hence non-toxic to aquatic life. Aquatic organisms respond to free ionic metal and monohydroxy complexes as bioavailable forms.(\*24) Rapid detoxification of copper in the presence of inorganic and organic substances occurs due to the high reactivity of this metal:

[t]he cupric ion is highly reactive and forms moderate to strong complexes with many inorganic and organic constituents of natural waters (e.g., carbonate, phosphate, amino acids and humates), and is readily sorbed onto surfaces of suspended solids.(\*25)

EPA's 1984 criteria application guidance provided a criteria adjustment for hardness -- one of the many substances present in biologically treated effluents -- but omitted similar consideration of organic ligands, even though EPA recognized their greater importance in detoxifying copper:

Lind, et al., (Manuscript) measured the toxicity of copper to *Daphnia pulex* in a variety of surface

waters and found that total organic carbon (TOC) is a more important variable than hardness, with acute values varying approximately 30-fold over the range of TOC covered. Similar results were obtained with the fathead minnow. This indicates that the criteria should be adjusted upward for surface waters with TOC significantly above the 2 to 3 mg/L usually found in waters used for toxicity tests. (\*26)

The scientific literature is replete with peer reviewed studies confirming that organic ligands similar to those in municipal effluents dramatically mitigate copper toxicity. (\*27) Callahan, et al., concluded that most cupric salts are not readily water soluble and reported that inorganic and organic complexation and adsorption of copper reduce the level of soluble copper to very low values, even in the presence of total copper. (\*28) The linear relationship between reduction in toxicity of total copper to rainbow trout with increasing concentrations of suspended organic solids was reported by Brown. (\*29) This work reported that doubling the concentration of organic ligand from 4 mg/l to 8 mg/l approximately doubled the 96-hour LC50 for copper. Brown concluded:

toxicity to rainbow trout of a given total concentration of copper was quantitatively reduced in the presence of a good quality sewage effluent, of an amino acid, of humic substances, and of suspended organic solids. (\*30)

Similar results were obtained by Sunda and Lewis, who reported complexation of 61 to 99 percent of free copper by river water containing natural organic matter at 22 mg/l. (\*31) Erickson, et al., reported that copper complexed with organic ligands appears to be one-fifth as toxic as free ionic copper, and that addition of organic matter (humic substances) increased the LC50 of copper by 2.7. Morrison and Florence reported that copper toxicity to algae and *Daphnia magna* was decreased by sixty (60) percent in the presence of 5 mg/l fulvic acids and eliminated in the presence of 1.3 to 8 mg/l humic acid colloids. (\*32) As noted previously, storm waters typically contain TOC levels in excess of these values.

The above laboratory studies conducted under conditions with relatively low levels of binding agents confirm that even when relatively high "dissolved" copper concentrations were measured, the toxicity of copper to sensitive species was greatly reduced or eliminated in the presence of organic and inorganic compounds. The amount of copper complexed in the presence of high concentrations of organic ligands in biological waste treatment systems or urban storm waters would, of course, be much greater. As the amount of ligands and other binding agents is, stoichiometrically, greatly in excess of the ionic copper for typical municipal and storm water conditions, no copper will be present in a toxic form. This fact was demonstrated by Allen and Hansen. (\*33)

On the basis of over twenty years of observations and research on metal speciation chemistry and fate of metals in receiving waters and in treatment facilities, Dr. Allen concluded that virtually all copper in biologically treated effluent is non-toxic:

Following biological treatment, virtually all the copper present in a municipal treatment plant effluent would be in the form of soluble copper complexes or it would be sorbed to particulate material not removed from the effluent stream in the final clarifier. Certainly, as in any chemical equilibrium situation, there will be a finite concentration of free, ionic copper present in the effluent. However, this concentration will be very low and will not pose a toxicity risk. This is borne out by a lack of metal toxicity in treatment plant effluents when effluent monitoring studies have been conducted. As far as I know, such studies have not demonstrated that there is toxicity from metals in effluents. (\*34)

Field studies of WERs have repeatedly confirmed laboratory observations and validate the total detoxification of copper by biologically treated effluents. DiToro, et al., performed WERs on the site-specific detoxification of copper in the Naugatuck River. (\*35)

Very little difference in toxicity was observed between laboratory water with minimal complexing ability and river water from pristine segments. However, where river water contained treated municipal effluents, up to a twelve-fold reduction in copper toxicity was recorded, and it was concluded that the copper present in the municipal effluent was non-toxic. A 1992 summary of WERs for heavy metals compiled by Brungs showed that copper is up to 26 times less toxic in water influenced by municipal effluent.(\*36) It should be noted that to have a WER significantly above one (1), the existing metal in the discharge must be complexed. The WER actually represents the excess binding capacity of the effluent.

The dramatic detoxification of copper in the presence of municipal effluent was also reported in a field study on Shayler Run by Geckler, et al.

It was suspected that the Shayler Run sewage treatment plant was discharging materials that were detoxifying copper in Shayler Run water. Bioassays, using diluent water from above and below the entrance of the effluent, indicated that copper was much less toxic in Shayler Run water below the plant. Additional toxicity tests, in which Shayler Run water was diluted with a reconstituted water similar in hardness and alkalinity, indicated that the reduction in toxicity was not due to hardness or alkalinity, but to some other detoxifying agent or agents being diluted.(\*37)

The North Carolina Department of Environment, Health, and Natural Resources documented 78 cases in which total recoverable copper in effluents and in receiving waters was measured in excess of water quality criteria without observed chronic toxicity. Instream total copper ranged up to 378 ug/l. Bioassay testing was conducted using *Daphnia magna*, one of the most sensitive species to copper (see Exhibit 7). The Massachusetts Department of Environmental Protection confirmed the same results in their survey of 35 facilities. These documents have previously been provided to EPA as part of the public comments on the May 1995 National Toxics Rule revision. No public response to those comments was ever published. As a result of the extensive NWR analysis performed by the Connecticut Department of Environmental Protection, it was demonstrated that water upstream from municipal dischargers exhibit a typical WER of three (3) while those downstream of publicly owned treatment works ("POTWs") exhibit WERs ranging from 8 to 25 (Exhibit 8). As expected, the higher WERs are associated with increased levels of municipal effluent and organic material.

The above field studies confirm the observations made by laboratory research and validate the rapid detoxification of copper in the presence of treated effluents and elevated TOC levels. Stockton is not aware of any reported instances that contraindicate copper in biologically treated effluent is non-toxic to sensitive species. Thus, it is apparent that there is no technical or environmental basis for concern regarding copper levels typically discharged by biologically treated facilities (copper ranging from 20 to 200 ppb). Nor is there any rational basis to be concerned with low level dissolved copper measurements in storm waters where TOC levels are capable of fully binding the available copper. The continued application of a dissolved criteria approach which would classify these effluents as problematic when they clearly are not is arbitrary and capricious and wastes local resources on problems that do not exist.

### (3) Water Quality Criteria Must be Based on the Latest Scientific Information and the Proper Application of Science

The fundamental oversight in translating dissolved copper criteria into permit conditions is the failure to regulate only bioavailable metal. The laboratory conditions of the EPA criteria development experiments accurately reflect the maximum toxic impacts to highly sensitive species when exposed to a highly toxic dissolved, ionic form of copper in pure water having little or no complexing ability. Such conditions are

plainly unrelated to copper discharged from biological waste treatment systems. Because of the greater abundance of complexing agents present in biological treatment process, all copper in a discharge will be in a complexed and therefore non-bioavailable form. This is particularly true for effluent dominated, low dilution streams and storm waters where proper criteria application is most critical.

EPA must apply copper water quality criteria in the same manner in which they were developed. The National Guidelines prohibit application of the criteria in a manner not contemplated by that document:

Criteria must be used in a manner that is consistent with the way in which they were derived if the intended level of protection is to be provided in the real world... Concentrations, durations and frequencies specified in criteria are based on biological, ecological and toxicological data, and are designed to protect aquatic organisms and their uses from unacceptable effects.(\*38)

Application of water quality standards for copper must reflect the pollutant form assessed in the criteria. The National Guidelines require revision of criteria whenever it is demonstrated that the national criteria "would probably be substantially over or under protective."(\*39) As the dissolved approach has been demonstrated to be overprotective in all cases involving biologically treated effluents and elevated TOC, this procedure requires revision.

By allowing scientifically defensible biomonitoring/bioassay methods as an alternative method of developing water quality criteria and water quality-based effluent limitations, EPA would assure adequate protection of only the toxic or bioavailable fraction of copper. This approach is outlined in the most recent SETAC Conference report on proper application of metals criteria. Unlike standards expressed in terms of analytical measurements (e.g., "total recoverable" or "dissolved"), use of bioassay tests to directly evaluate the bioavailable fraction of copper is rationally related to the actual potential for aquatic life impacts to the species that drove the national criteria (ie., daphnids).

The language of EPA regulations makes it clear that the Agency's authority to develop criteria rests on the scientific accuracy by which those criteria relate to aquatic impacts:

Section 304(a) criteria are developed by EPA under authority of Section 304(a) of the Act based on the latest scientific information on the relationship that the effect of a constituent concentration has on a particular aquatic species and/or human health. 40 C.F.R. 131.3(c) (emphasis supplied).

Therefore, Agency endorsement of test methods that are known to exhibit little relationship to aquatic life protection needs exceeds the scope of the Agency's authority to develop and implement criteria.

#### (4) EPA Is Bound to Adhere to Published Guidance

Both the Clean Water Act and EPA's National Guidelines establish the underlying mechanism for establishing Section 304(a) criteria for metals. As previously discussed, the National Guidelines describe the various methods of justifying numerical criteria values that are protective of aquatic life uses and specify that all factors that significantly influence the toxicity of a pollutant must be taken into account. EPA's National Metals Policies all state that only the biologically available fraction is intended to be regulated. Unfortunately, a dissolved approach to copper does not meet that objective.

EPA is not free to wander from its published guidance and regulations when the result of such deviation adversely affects the substantive rights of an individual who relied on the Agency's published representations.(\*40) In *Massachusetts Fair Share v. Law Enforcement Assistance*, 758 F.2d 708, 711-712 (D.C. Cir. 1985), the court reinforced the philosophy established in *Morton v. Ruiz*:

It has long been settled that a federal agency must adhere firmly to self-adopted rules by which the interests of others are regulated. This precept is rooted in the concept of fair play and in abhorrence of unjust discrimination, and its ambit is not limited to rules attaining the status of formal regulations. The Supreme Court has declared that "[w]here the rights of individuals are affected, it is incumbent upon agencies to follow their own procedures, even though the procedural requirement there spoken of had not been published in the Federal Register, and other courts have concluded similarly.

Both the CWA and EPA's published regulations require that criteria accurately reflect the latest scientific knowledge on aquatic life protection needs. See, 33 U.S.C. section 304(a). EPA's current criteria do not reflect the latest information on copper detoxification by treated effluents or in the presence of elevated TOC levels, the most common cases for applying the criteria. The continued application of current numerical copper criteria to such situations is inappropriate and unnecessary

#### (5) Conclusion

For all the foregoing reasons, EPA should ensure that the criteria-based water quality standard for copper is applied to the same pollutant form assessed in the Copper Criteria Document "bioavailable" or, in this case, ionic copper). Laboratory and field studies overwhelmingly support the conclusion that copper in storm waters and biologically treated effluents exists in organo-complexes and is not bioavailable. There is no information to the contrary. Current approaches to criteria development erroneously equate filterable copper to dissolved bioavailable metal, and overstate the toxic fraction in treated effluents, wasting local and state resources on time consuming, administratively complex and expensive WER tests. Consistent with the National Guidelines and the "Reinventing Government" initiative, a less costly, more environmentally appropriate approach is required.

It is clear from the preceding discussion that the existing copper criteria requires amendment because the criteria, as implemented, are not limited to the toxic form of the metal. Since there are no approved analytical techniques to allow measurement of the toxic form of copper in state waters, EPA needs to establish a procedure to better define the toxic fraction and defer implementation of copper water quality criteria for any discharge that has demonstrated no acute toxicity to copper sensitive organisms. This approach is used by the State of North Carolina and is conceptually the same as the simplified water effect ratio approach EPA is developing. This methodology will provide significant benefit to EPA and better focus environmental resources. By establishing an objective basis to evaluate actual copper toxicity, EPA and the regulated community will better be able to define where real copper toxicity problems exist.

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(\*18) Benson, W.H., Alberts, J., Allen, H.E., Hunt, C.D., and Newman, M.C. "Bioavailability of Inorganic Elements." In A Mechanistic Understanding of Bioavailability: Physical Chemical Interactions, ed. J.K. Hamelink, W.H. Benson, H.L. Bergman, and P.F. Landnim. Chelsea, MI: Lewis Publishers, 1993.

(\*19) Interim Guidance at 1.

(\*20) Letter from LaJuana S. Wilcher, USEPA, to Congressman Hammerschmidt, dated March 13, 1992 (emphasis supplied).

(\*21) Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria, USEPA (October 1, 1993) at 2.

- (\*22) Implementation of Metals Criteria," USEPA Memorandum (April 1, 1993).
- (\*23) Ambient Water Quality Criteria for Copper - 1984, USEPA/440/5-84-031 (January 1985).
- (\*24) Allen, Herbert E. and Bo Shi. Copper Speciation and Bioavailability: Critical Evaluation for POTW Effluent Discharges. Proceedings of the Water Environment Federation Conference on Toxic Substances in Water Environments (May, 1995) pp. 5-11
- (\*25) Copper Criteria Document at 2.
- (\*26) Copper Criteria Document at 7.
- (\*27) Boggs, S., D.G. Livermore, and M.G. Seitz. "Humic Macromolecules in Natural Waters." Reviews in Macromolecular Chemistry and Physics, C25, 599-657 (1985); Sposito, G. "Sorption of Trace Metals by Humic Materials in Soils and Natural Waters." CRC Critical Reviews in Environmental Control (I 6):193-299 (1986); Buffle, J. Complexation Reactions in Aquatic Systems: An Analytical Approach. Ellis-Horwood, London(1988).
- (\*28) Callahan, M.A., M.W. Slimak, N.W. Gabel, I.P. May, C.F. Fowler, J.R. Freed, P. Jennings, R.L. Durfee, F.C. Whitmore, B. Maestri, W.R. Mabey, B.R. Holt and C. Gould. Water-Related Environmental Fate of 129 Priority Pollutants. USEPA 440/4-79-029a (1979).
- (\*29) Brown, V.M., T.L. Shaw, and D.G. Shurben. "Aspects of Water Quality and the Toxicity of Copper to Rainbow Trout." Water Research 8:797-803 (1974).
- (\*30) Id. at 801.
- (\*31) Sunda, W.G. and J.M. Lewis. "Effect of Complexation by Natural Organic Ligands on the Toxicity of Copper to a Unicellular Algae, *Monochrysis lutheri*." Limnology and Oceanography 23:870-876 (1978).
- (\*32) Morrison, G.M.P. and T.M. Florence. "Comparisons of Physicochemical Speciation Procedures with Metal Toxicity to *Chlorella pyrenoidosa*." Analytica Chimica Acta 209:97-109 (1988).
- (\*33) Allen, H.E., and Hansen, D.J. "Importance of Trace Metal Speciation to Water Quality Criteria." Draft manuscript dated January 7, 1994 (attached hereto as Exhibit 2).
- (\*34) Letter from Dr. Herbert E. Allen to J.C. Hall regarding speciation and bioavailability of metals, dated October 15, 1993 (attached hereto as Exhibit 6).
- (\*35) DiToro, D.M., J.A. Halden, and J.L. Plafkin. "Modeling Ceriodaphnia Toxicity in the Naugatuck River: II. Copper, Hardness and Effluent Interactions." Environmental Toxicology and Chemistry 10:261-174 (1991).
- (\*36) Brungs, W.A. "Synopsis of Water-Effect Ratios for Heavy Metals as Derived for Site Specific Water Quality Criteria." USEPA Contract No. 68-CO-0070 (1992).
- (\*37) Geckler, J.R., W.B. Hoving, T.M. Neiheisel, Q.H. Pickering, E.L. Robinson and C.E. Stephan. "Validity of Laboratory Tests for Predicting Copper Toxicity in Streams." USEPA 600/3-76-116 (1976)

at pp. 168-169.

(\*38) National Guidelines at 14 (emphasis supplied).

(\*39) National Guidelines at 18.

(\*40) See *Morton v. Ruiz*, 415 U.S. 199, 235. In a dispute between an American Indian and the Department of Interior's Bureau of Indian Affairs ("BIA"), the Supreme Court held that where the rights of individuals are affected, it is incumbent upon agencies to follow their own procedures. This is so even where the internal procedures are possibly more rigorous than otherwise would be required.

Response to: CTR-020-012

EPA agrees that the factors discussed in the comment strongly affect the toxicity of copper, but does not agree that the criteria formulas specified in the rule do not account for these factors. The freshwater copper criterion is expressed as formula having two parameters, hardness and the water-effect ratio. The saltwater copper criterion is expressed as a formula having one parameter, the water-effect ratio.

The water-effect ratio (WER) is a generalized parameter that accounts for the difference in biological activity or toxicity of the copper in the site water versus in laboratory water. EPA agrees that the WERs typically observed in waters carrying substantial amounts of municipal effluent are generally large enough that no copper toxicity is manifested in such waters. EPA also agrees that the organic carbon content of such waters plays a key role in rendering copper nontoxic. However, EPA does not believe that the facts set forth in the comment indicate that the WER concept incorporated into the rule is incapable of satisfactorily accounting for the effects that organic carbon and other site water factors have on copper toxicity.

The rule has cited EPA's current guidance on determining water-effect ratios. However, the rule does not require that WER determinations follow only this guidance. Rather, it allows "other scientifically defensible methods adopted by the state...and approved by EPA." EPA understands the concerns raised in the comment about the resources needed to complete a WER determination pursuant to its guidance. EPA is working with states and dischargers in developing more streamlined approaches for determining WERs using fewer toxicity tests. EPA has also been funding development of a biotic ligand modeling approach, which will predict a site WER for copper using chemical measurements of hardness, alkalinity, dissolved organic carbon, and pH, thereby eliminating the need for the side-by-side site water and lab water toxicity testing of the traditional WER determination. EPA also supports conventional regression techniques for developing a relationship between site chemical parameters, such as DOC, and the WER. EPA's approval of such alternative procedures will be based on their scientific merit. With the anticipated improvements in techniques for predicting the WER from chemical measurements, EPA believes that in many cases it may be simpler to implement than the whole effluent toxicity approach advocated in the comment.

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Comment ID: CTR-025-004a

Comment Author: Metro. Water Dist. of So. Cal.

Document Type: Water District

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-02b Copper Aquatic Life

References:

Attachments? Y

CROSS REFERENCES C-16

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Comment: The proposed CTR freshwater aquatic life criteria for copper are also problematical for many drinking water suppliers. Copper algaecides are a necessary element of algal control strategies for drinking water reservoirs and conveyances. Even with a comprehensive reservoir management program based on limnological principles, copper algaecides need to be part of the algal control arsenal. Algal growth, if uncontrolled, can lead to unacceptable levels of trihalomethanes (THMS) in treated water supplies, among other impacts.

The CTR proposes freshwater aquatic life criteria for copper which could severely hamper the ability of drinking water suppliers to use copper algaecides. The dosage of these algaecides which is effective for controlling algal growth could lead to periodic exceedances of the copper freshwater criteria. Yet, use of copper algaecides is sometimes necessary to protect drinking water beneficial uses, and there is currently no economically feasible alternative available. Drinking water suppliers have the difficult task of meeting conflicting requirements to protect drinking water beneficial uses while ensuring that aquatic life criteria for copper are met.

Response to: CTR-025-004a

EPA acknowledges the comment, but notes that tradeoffs between drinking water benefits and aquatic life benefits were not considered.

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Comment ID: CTR-033-001

Comment Author: San Bernardino Muncpl Wtr Dept

Document Type: Water District

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-02b Copper Aquatic Life

References: Letter CTR-033 incorporates by reference letter CTR-020

Attachments? Y

CROSS REFERENCES

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Comment: The application of the proposed copper criteria to municipal effluent is overly restrictive. Copper in municipal effluents have been demonstrated not to be toxic at higher levels than proposed due to the nature of the constituents in the effluent. Attached is a recent article that appeared in the Water Environment Federation Journal that highlights the rationale for high copper limits in municipal effluent.

Response to: CTR-033-001

See response to CTR-020-012.

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Comment ID: CTR-053-003b

Comment Author: Heal the Bay  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-02b Copper Aquatic Life  
References: Letter CTR-053 incorporates by reference letter 6 and the comments on Dioxin, copper, and the compliance schedule from letter CTR-002  
Attachments? N  
CROSS REFERENCES C-01b  
C-09a

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Comment: In spite of our lack of detailed comments for specific criteria, we have concerns regarding any weakening of California's previously developed standards, particularly those for mercury and copper. Also, we question the absence of criteria for dioxin and dioxin-like compounds. In order to ensure these issues are considered in future improvements of the Rule, we incorporate by reference the comments of the Natural Resources Defense Council regarding mercury, and the comments of Communities for a Better Environment ("CBE") regarding dioxin compounds and copper.

Response to: CTR-053-003b

See response to CTR-002-004b.

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Comment ID: CTR-054-008a  
Comment Author: Bay Area Dischargers Assoc.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-02b Copper Aquatic Life  
References:  
Attachments? Y  
CROSS REFERENCES C-24  
E-01c  
R  
S

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Comment: Separate, scientifically defensible, reasonably achievable aquatic life criteria for copper should be adopted for San Francisco Bay, or alternatively EPA should specify in the Preamble implementation policies for copper that will result in reasonable control measures actions. To comply with the Clean Water Act and EPA regulations, EPA is required to consider specific water bodies. To fulfill the spirit of Presidential Executive Order 12866 and the requirements of the Unfunded Mandates Reform Act, EPA is required to evaluate regulatory alternatives based on an analysis of costs and benefits. Based on BADA's analysis of costs and benefits, EPA should either adopt copper criteria that are reasonably achievable or alternatively specify implementation policies that will avoid costly end-of-pipe controls. Potential implementation measures that could be specified include use of the following in calculating effluent limitations: actual dilution based on modeling studies; copper translators; probability of compliance less than 99.9%; and water-effect ratios determined for different

segments of the Bay. Unless EPA specifies these or similar implementation policies in the rule, it is possible that the CTR could result in significant costs (\$12 million per year to \$78 million per year) while resulting in minor environmental benefit (a 1% reduction in copper loading to the Bay). In that case, the CTR would violate the Clean Water Act, EPA regulations, Presidential Executive Order 12866, the Unfunded Mandates Reform Act and the Regulatory Flexibility Act. (see the discussion under Item 11 below.)

Response to: CTR-054-008a

See response to CTR-092-013a.

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Comment ID: CTR-060-013

Comment Author: San Diego Gas and Electric

Document Type: Electric Utility

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-02b Copper Aquatic Life

References:

Attachments? N

CROSS REFERENCES

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Comment: PROVISIONS SDG&E DOES NOT SUPPORT

As described in the following comments SDG&E does not support the following provisions:

Copper criteria

The metal criteria, including copper, are based on toxicity tests run in relatively pure water. Naturally occurring elevated ambient concentrations of suspended organic matter in bays and estuaries can significantly reduce the bioavailable portion of the metal. Since the criteria do not account for the presence of organic matter, the proposed criteria for metals, including copper, will be unnecessarily over-protective. As provided, water effects ratios (WERs) can be developed to account for this effect. However, WER studies can be very costly (see comments below regarding the economic analysis).

EPA appears to have deviated from its standard protocol in developing the copper criteria. Normally, a criteria is based upon toxicity tests of multiple species. However, the proposed criteria appear to be based upon the single species (i.e., the blue mussel) with the lowest toxicity concentration. This has resulted in a somewhat lower criteria than would have otherwise been derived. The criteria should be recalculated to be based upon the results of multiple species.

Response to: CTR-060-013

Concerning the comment on water-effect ratios, see response to CTR-020-012. EPA does not agree that it has departed from its standard protocol in deriving the saltwater copper criterion. The criteria Guidelines provide that the criterion derived to protect the fifth percentile genus is to be lowered, if necessary, to protect recreationally or commercially important species. This has been done for the saltwater copper criterion.

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Comment ID: CTR-064-001  
Comment Author: El Dorado Irrigation District  
Document Type: Irrigation District  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-02b Copper Aquatic Life  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: The CTR proposes to establish a dissolved approach for copper with typical limits for a low flow stream ranging from 8 to 15 parts per billion (ppb). The preamble to the CTR recognizes that copper rapidly binds with organic materials and may not be toxic in municipal effluents. In fact, EPA has acknowledged in a number of forums that copper is not expected to be toxic in municipal effluents; nonetheless, the proposed CTR does not reflect this reality.

As explained by EPA criteria derivation guidelines, water quality criteria are required to reflect expected environmental impacts and are to be revised if they are determined to be significantly over or under-protective. EPA has in its possession an extensive amount of research data and field study results which demonstrate that copper is never toxic in municipal effluents. If copper is discharged to low flow streams, there is no influence of upstream water quality -and therefore, the toxicity of the copper will not be altered. The copper level in EID's discharge typically ranges from 20 to 40 ppb and has been found to be non-toxic to copper-sensitive organisms (i.e., daphnids).

The proposed copper criteria do not reflect the expected toxicity of this pollutant in the environment and will result in unnecessarily restrictive requirements throughout the state. Although required by the National Guidelines, the copper criteria fall to include an adjustment to account for binding with organic material such as that expected to occur in treatment plant effluents that renders this pollutant non-toxic (see enclosure).

Application of the criteria as a dissolved standard will likely result in many facilities being identified as in violation of the criteria. This proposed approach wastes scarce local resources, imposes an unauthorized, unfunded mandate on municipalities, penalizes small communities which have both limited budgets and access to updated scientific approaches, and is inconsistent with EPA's statutory mandates and guidance.

EPA should take one of two actions: (1) withdraw application of the copper criteria to municipalities, or (2) establish a screening level procedure which will only apply the criteria where copper-sensitive organisms indicate that copper is toxic.

We thank you for the opportunity to comment on this proposed rulemaking and look forward to EPA's reevaluation of the copper criteria as applied to municipalities.

Response to: CTR-064-001

See response to CTR-020-012.

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Comment ID: CTR-065-007  
Comment Author: Environmental Health Coalition  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-02b Copper Aquatic Life  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: PROPOSED COPPER CRITERION WILL CONTRIBUTE TO DEGRADATION OF SAN DIEGO BAY

EPA's proposed 3.1 ug/L dissolved copper criterion will allow copper three times the levels at which sensitive species are known to be impacted in an areas such as San Francisco Bay. San Diego Bay is already listed as impaired for copper. This criterion is too high and will allow more degradation of our water resources.

Response to: CTR-065-007

See response to CTR-002-008.

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Comment ID: CTR-092-013b  
Comment Author: City of San Jose, California  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-02b Copper Aquatic Life  
References: Letter CTR-092 incorporates by reference letter CTR-035  
Attachments? Y  
CROSS REFERENCES C-24a

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Comment: Validity Of The Proposed Copper Criteria For South San Francisco Bay

Attachment 3 to this letter is a technical report entitled "Development of a Site-Specific Water-Effect Ratio for Copper in South San Francisco Bay", dated September 1997 and prepared by the City of San Jose Environmental Services Department.

This attachment is also incorporated as part of our comments and is being submitted for inclusion in the record for this rulemaking. Because EPA is proposing to promulgate water quality criteria for all waterbodies in the State of California, we believe that it is required to consider site-specific data to the extent that it is available, especially, where, as in the case of the submitted data, it appears that there is a less costly/appropriately protective alternative to the proposed criteria.

Response to: CTR-092-013b

See response to CTR-092-013a.

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Comment ID: CTRH-001-014

Comment Author: Greg Karras

Document Type: Public Hearing

State of Origin: CA

Represented Org: Comm. for Better Environ.

Document Date: 09/17/97

Subject Matter Code: C-02b Copper Aquatic Life

References:

Attachments? N

CROSS REFERENCES

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Comment: On copper, EPA says it has weakened the copper standards to allow copper levels which, again, now violate the state standard of 4.99 in most of the bay. And EPA says this is too tight because the new data shows the quantity standard for total copper is overprotective.

But the highest dissolved copper level found in the estuaries with less copper pollution, where species that are apparently decimated by copper pollution in parts of San Francisco Bay still thrive, is three times smaller than EPA's proposal.

Our question here is, will EPA prove that its proposal will protect these species in the bay before adopting it?

Response to: CTRH-001-014

See response to CTR-002-008.

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Subject Matter Code: C-03b Nickel Aquatic Life

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Comment ID: CTR-063-001

Comment Author: Wilner, Cutler & Pickering

Document Type: Specific Industry

State of Origin: CA

Represented Org: Ni DI, Ni PERA, Inco U.S.

Document Date: 09/22/97

Subject Matter Code: C-03b Nickel Aquatic Life

References:

Attachments? N

**CROSS REFERENCES**

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Comment: In this rulemaking, EPA proposes to set the freshwater acute aquatic life water quality criterion for nickel (the so-called "Criterion Maximum Concentration" or "CMC") at a level of 470 ug Ni/L, while the freshwater chronic aquatic life water quality criterion (the so-called "Criterion Continuous Concentration" or "CCC") would be set at a level of 52 ug Ni/L -in both cases expressed as the dissolved fraction of nickel in the water column corresponding to a water hardness of 106 mg/L as CaCO<sub>3</sub>- See 62 Fed. Reg. at 42169 (Table), 42194, These values are less than one-third of the CMC and CCC values that EPA has adopted for nickel in its National Toxics Rule, See 62 Fed. Reg. at 42169.

As explained in the rulemaking notice, the reason why the freshwater nickel aquatic life criteria proposed for California are so much lower than the values set forth in the National Toxics Rule is that the California values were "calculated using data published subsequent to the issuance of [the Clean Water Act section] 304(a) criteria document [for nickel]." Id. at 42168/3. In particular, eight sets of acute toxicity (LC50/EC50) data were added to the database for nickel. Seven of these eight LC50/EC50 values (adjusted to a water hardness of 50 mg/L CaCO<sub>3</sub>) ranged from 66,100 ug/L to 160,521 ug/L(\*1). The eighth value, an LC50, for the snail species *Physa gyrina*, was 416 ug/L, more than two orders of magnitude lower than the values in the other seven studies.(\*2) This value also was far below any other acute aquatic toxicity value for nickel that had been reported previously.(\*3)

Since EPA calculates the CMC acute toxicity value by using the lowest four Genus Mean Acute Values for the chemical(\*4), the LC50 of 416 mg/L reported for *Physa gyrina* replaced a Genus Mean Acute Value of 6,707 ug/L for the fathead minnow in the calculation of the CMC for nickel.(\*5) This substitution of LC50 values caused the proposed California CMC for nickel to be 470 ug/L at a water hardness of 100 mg/L CaCO<sub>3</sub>, while the National Toxics Rule CMC for nickel corresponding to that water hardness is 1400 ug/L. See 62 Fed. Reg. at 42169. It also caused the proposed California CCC for nickel to be 52 ug/L at a water hardness of 100 mg/L CaCO<sub>3</sub>, compared to a National Toxics Rule CCC of 160 ug/L at that water hardness. See id. (The chronic toxicity CCC was affected by the change in acute toxicity data because, in the absence of sufficient chronic toxicity data for nickel, the CCC was derived by applying an acute to-chronic ratio to the acute toxicity data. See Nickel Criteria Document at K-1.)

The LC50 of 415 ug/L for *Physa gyrina* that is driving the reduction in the acute and chronic aquatic toxicity values for nickel in the California proposal is derived from a study by A.V. Nebeker, et al., "Effects of Copper, Nickel and Zinc on Three Species of Oregon Freshwater Snails," *Environmental Toxicology and Chemistry* 5:807-811 (1986). For the reasons discussed below, we do not believe that data from this study (which was conducted in part to develop new test methods) should be used to calculate CMC and CCC values for nickel.

Under the methodology used by EPA to derive CMC values, "results of acute tests during which the test organisms were fed shall not be used, unless data indicate that the food did not affect the toxicity of the test material>(\*6). The article by Nebeker, et al. does not mention whether or not the snails were fed during testing. When a NiPERA scientist contacted the study's lead investigator in August 1993, she was informed that the investigator believed the snails had been fed. A subsequent check of the original data book for the 96-hour and 30-day *Physa gyrina* zinc test conducted as part of the same study disclosed that food had indeed been placed in each test container.(\*7) The data book for the *Physa gyrina* nickel test could not be found (apparently some archived material was lost when the EPA laboratory was closed in 1985). In the absence of the data book, the study's author explained that while animals normally are not fed during acute (96-hour) tests, they may have been fed in this instance because the investigators "were developing new test methods, as well as obtaining criteria data.(\*8) The authors of the study simply "have no way to verify" whether or not the snails were fed in the *Physa gyrina* nickel test.(\*9)

In these circumstances, data from the *Physa gyrina* nickel test should not be used to set water quality criteria, particularly since the authors' data book clearly shows that the snails were fed in the 96-hour zinc test performed by the same investigators, in the same series of tests, in the same lab.(\*10) Another reason why data from the *Physa gyrina* nickel study should not be used is that the loss of the primary data notebook makes it impossible to verify the experimental conditions and results of the study.

Apart from the possibility that the snails were fed, data from the test by Nebeker, et al. should be interpreted cautiously because these particular snails are very sensitive to heavy metals, especially copper.(\*11) In one of the snail species tested by Nebeker (*Lithoglyphus virens*), the 30-day LC50 for copper was found to be <0.004 mg/L, while in a second test of the same species, 50% of the snails died at a copper concentration of 0.008 mg/L (the lowest level tested) at 96 hours.(\*12) Overall, Nebeker et al. noted that the effect levels they observed were "in the lower range of those that have been reported," a result they attributed in part to the extreme softness of their test water (approximately 20 mg/L) and the resulting "higher percentage of biologically active metal species (e.g., more Cu<sup>++</sup> in solution).(\*13) It may be that exposure to low ambient levels of copper and other metals in this extremely soft test water had compromised the overall health of the snails and made them more sensitive to nickel.(\*14) In the absence of positive control data (which are not reported in the article and which are not otherwise available given the loss of the primary data notebooks), one cannot determine whether the snails' health was compromised.(\*15)

In sum, substantial questions exist as to whether the study by Nebeker et al. -which was conducted in part to develop new test methods -- satisfies EPA's methodological criteria for developing acute aquatic toxicity values. The possibility (indeed, likelihood) that the snails were fed during the 96-hour test, the apparent heightened sensitivity of the organisms resulting from exposure to low levels of copper in the soft water while the snails were held in culture prior to testing, and the absence of a data notebook that would make it possible to verify the experimental conditions and results all suggest that data from this study should not be used to set freshwater aquatic toxicity criteria for nickel. This is particularly true in light of the fact that the LC50 value for the only other snail species for which acute nickel toxicity data are reported (*Amnicola* sp.) was 12,770 ug/L (adjusted to a hardness of 50 mg/L), a value that is 30 times higher than the LC50 reported by Nebeker et al. for *Physa gyrina*.(\*16) This striking disparity between the LC50 values for the two snail species is an additional reason for excluding the data from the Nebeker et al. study of *Physa gyrina* in calculating the acute water quality criterion for nickel.(\*17) With those data excluded, the freshwater CMC for nickel would be 1400 ug/L (adjusted to a hardness of 100 mg/L as CaCO<sub>3</sub>), and the freshwater CCC would be 160 ug/L (adjusted to a hardness of 100 mg/L as CaCO<sub>3</sub>). Those values (and the corresponding water hardness equation from which they are calculated) should be adopted as the numeric freshwater aquatic life criteria for nickel in the State of California.

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(\*1) See 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water - 1995 Update: Freshwater Aquatic Life Criterion for Nickel, September 1996 (hereinafter "Nickel Criteria Document") at K-3, Table KI.

(\*2) See id.

(\*3) See id., Table K2.

(\*4) See id. at K-1.

(\*5) See id. at K-5, Table K2.

(\*6) See 58 Fed. Reg. 20802, 21017/2 (April 16, 1993).

(\*7) Personal communication from Alan V. Nebeker to Barbara Andon, August 27, 1993 (submitted herewith as Attachment 1).

(\*8) id.

(\*9) Id.

(\*10) There is, of course, no data to indicate whether any feeding that might have occurred affected the toxicity of the test material.

(\*11) See Nebeker, et al., supra, at 807.

(\*12) See id. at 808 Table 1, 809.

(\*13) Id. at 810.

(\*14) See id. at 811 ("The prior acclimation of the test species to very low copper concentrations (less than 0,003 mg/L) also may affect their sensitivity.")- cf 58 Fed. Reg. at 21016 (stating that data must be rejected if the organisms "were previously exposed to substantial concentrations of the test material or other contaminants").

(\*15) Cf 58 Fed. Reg. at 21016 (stating that data must be rejected "if they are from tests that did not contain a control treatment"). Similarly, since the study was not repeated, possible anomalies in the study (such as possible miscalculations in the dosing concentrations) cannot be ruled out.

(\*16) See Nickel Criteria Document at K-4, Table K2; R.L. Rehwoldt, et al., "The Acute Toxicity of Some Heavy Metal Ions Toward Benthic Organisms," Bull. Environ. Contain. Toxicol. 10:291-294 (1973) (static test procedure).

(\*17) Cf 58 Fed. Reg. at 21017/3 ("Acute values that appear to be questionable in comparison with other acute and chronic data for the same species and for other species in the same genus must not be used. For example, if the acute values available for a species or genus differ by more than a factor of 10, rejection of some or all of the values is probably appropriate.").

Response to: CTR-063-001

EPA does not agree that the Nebeker et al. test results should be rejected. EPA does not believe that the question of whether the snails were or were not fed is of overriding importance. Feeding of organisms is not desirable in acute tests because the material in the food may reduce the biological availability of the toxicant, thus reducing its toxicity and raising its LC50, and because feeding is generally not necessary in a short test. Feeding of organisms is necessary in chronic tests, because of their longer duration. EPA does not believe that the feeding of organisms in either an acute or chronic test has any effect on increasing the sensitivity of organisms to the toxicant, and likewise does not believe that feeding of organisms in the Nebeker et al. test, if it had been done (which is not known), would explain the results.

EPA does not expect lab books to be retained for perpetuity and does not consider loss of the original lab books to be grounds for discarding the data.

EPA agrees that *Physa gyrina* appears to be significantly more sensitive than other species. EPA recognizes that in general the chemical characteristics of the lab water affect the toxicity of metals in

ways not taken into account by the hardness normalization. However, EPA does not have information indicating that the characteristics of the (very soft) lab water used in the Nebeker et al. test are so unusual as to be unrepresentative of California waters.

EPA has considered whether the organisms may have been stressed by the chemical characteristics of the lab water. However, subsequent communications with Nebeker revealed that the organisms have been successfully reproducing for years in ponds fed by the same wells that provided the lab water (Alan Nebeker memorandum to Charles Stephan, January 6, 1995). EPA can thus find no reason to believe that the control organisms were stressed.

Consequently, although *Physa gyrina*, as tested by Nebeker et al., is substantially more sensitive than other tested organisms, EPA has not found a good reason to reject the data. The freshwater nickel criterion in the rule is therefore unchanged for the final rule.

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Comment ID: CTR-092-012a  
Comment Author: City of San Jose, California  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-03b Nickel Aquatic Life  
References: Letter CTR-092 incorporates by reference letter CTR-035  
Attachments? Y  
CROSS REFERENCES C-07b

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Comment: Validity Of Proposed Nickel And Cyanide Criteria On A Statewide Basis

Attachment 1 to this letter is a technical report entitled "Task Report 1: Update and Recalculation of the Freshwater and Saltwater Cyanide Criteria", dated November 5, 1996 and prepared by Tetra Tech, Inc. for the City of San Jose. Attachment 2 to this letter is a technical report entitled "Final Report Recalculation of the Nickel Criteria for South San Francisco Bay", dated November 1, 1995 and prepared by Tetra Tech, Inc. for the City of San Jose. All of the attachments to this letter are incorporated as part of our comments and are being submitted for inclusion in the record for this rulemaking.

EPA has an obligation to consider the most current, scientifically defensible data in this rulemaking. EPA's obligations in this regard are particularly significant in light of its obligations under Executive Order 12866 and the Regulatory Flexibility Act (5 U.S.C.A. 601 et seq.) to consider a full range of cost effective alternatives to promulgation of the proposed Rule.

Although the title of Attachments 1 and 2 suggest that the data submitted relates only to San Francisco Bay, the data in fact relates to the entire state of California, and indicates that less stringent cyanide and nickel criteria than are proposed by the Rule would adequately protect water quality in California. Under the Executive Order 12866 and the Regulatory Flexibility Act, EPA should include consideration of the these less stringent criteria in its Economic Analysis.

Response to: CTR-092-012a

See response to CTR-092-012b.



Subject Matter Code: C-04b Selenium Aquatic Life

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Comment ID: CTR-008-001

Comment Author: San Luis&Delta-Mendota

Document Type: Water District

State of Origin: CA

Represented Org:

Document Date: 09/15/97

Subject Matter Code: C-04b Selenium Aquatic Life

References:

Attachments? N

CROSS REFERENCES

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Comment: Dear Ms. Frankel:

The San Luis & Delta-Mendota Water Authority objects to the freshwater selenium criteria set forth in Environmental Protection Agency's ("EPA") proposed "Water Quality Standards: Establishment of Numeric Criteria for Priority Toxic Pollutants in the State of California" (Federal Register Vol. 62, #150, pages 42160-42208, Tuesday, August 5, 1997) on the following grounds:

1. The criteria are based on data assembled before 1987 (as reported in EPA 440/5-87-003 "Ambient Water Quality Criteria for Selenium - 1987"). Therefore, the criteria do not take account of more recent data on selenium toxicity.
2. In particular, the freshwater selenium criteria are scientifically inadequate because they fail to take account of the known interference between selenate and sulfate uptake in high sulfate waters like those in the San Joaquin Valley [see, e.g., Ogle and Knight, Arch. Environ. Contam. Toxicol. 30, 274-279 (1996); Williams et al., Arch. Environ. Contam. Toxicol. 27,449-453 (1994); Hansen et al., Arch. Environ. Contam. Toxicol. 25, 72-78 (1993)]. This interference means that criteria based largely on effects observed in the low sulfate waters of Belews Lake, North Carolina, are probably overprotective for the high sulfate waters of the San Joaquin Valley. EPA itself (Federal Register Vol. 62, #150, page 42168, Tuesday, August 5, 1997) explicitly recognizes this inadequacy by stating "Chemical toxicity is often related to certain receiving water characteristics (pH, hardness, etc.) of a water body. Adoption of some criteria without consideration of these parameters could result in the criteria being overprotective."

The proposed California Toxics Rule should not be adopted without adequately addressing the difference for high-sulfate waters. The Rule should also not be adopted if it undercuts EPA's commitment to the cooperative review of appropriate long-term standards in the San Joaquin River Basin.

Response to: CTR-008-001

EPA agrees with the comment that the proposed acute freshwater criteria equation for selenium should not be promulgated, and has decided not to promulgate the proposed freshwater acute criterion, however, not for all of the reasons specified by the commenter. EPA's proposed acute criterion for the California Toxics Rule was revised in 1996 to reflect newer data supporting the additive toxicity of two predominant selenium forms (selenite and selenate) and is expressed as an equation. The acute criterion equation is designed to account for the additive toxicity of selenite and selenate in freshwater ecosystems and relies on assumptions of the relative toxicity and additivity of other forms of selenium since the

separate and combined toxicity of these other forms present in natural aquatic systems is not well defined. In 1996, the revised acute criterion underwent external peer review and was proposed for adoption under the Great Lakes Water Quality Initiative (GLI) (61 FR 58444-58449, November 14, 1996). This proposal has not yet been finalized because EPA is currently responding to public comments, which have called to attention a significant source of uncertainty in the expression of the relative toxicity of selenite and selenate in EPA's proposed acute criteria equation. Specifically, EPA is responding to the comment that the relative acute toxicity of selenite and selenate as expressed by the proposed individual CMCs (185.9 ug/L and 12.8 ug/L, respectively) is not consistent with the weight of toxicological data suggesting the opposite relative toxicity relationship and is an artifact of nuances in the selenate data set (i.e., its relatively small size combined with one extremely sensitive toxicity test result for the amphipod, *Gammarus pseudolimnaeus*).

EPA is currently responding to this comment by conducting additional toxicity tests on the relative toxicity of selenite and selenate to *G. pseudolimnaeus* and other acutely sensitive species. EPA is also updating its acute toxicity database with newer information, including newer data on the potential sulfate dependency of acute selenium toxicity. Therefore, because additional toxicity tests may result in substantial changes in the relative acute toxicity relationship of selenite and selenate that was proposed in the GLI and subsequently in the California Toxics Rule, EPA has chosen defer promulgation of acute, freshwater criteria for selenium until after the new toxicity data have been fully evaluated and incorporated. Further, EPA will consider in its forthcoming update of selenium freshwater acute criteria newer information since 1987 on the importance of sulfate and other factors on selenium freshwater acute toxicity.

EPA disagrees with the commenter that the chronic freshwater selenium criterion of 5 ug/L should not be promulgated as proposed. First, EPA believes that its chronic criterion is scientifically defensible, because having been based on field data, it incorporates principles and effects of bioaccumulation of selenium in aquatic ecosystems which are critical for estimating a long-term (chronic) toxicological threshold for selenium. Second, EPA does acknowledge that since 1987 (the latest revision of the selenium freshwater CCC), additional data are available that might be germane to the freshwater CCC for selenium. However, unlike the acute criterion, where the new data have been collected and almost certainly will change the criterion, EPA can not predict at this time the impact of any new data on freshwater CCC. Currently, EPA is in the early stages of reviewing this data and is addressing technical issues whose impact on the CCC is not easily predicted (e.g., the impact of basing chronic toxicity thresholds on tissue residue concentrations vs. water column concentrations). To facilitate this review of the freshwater CCC, and to address many of the technical issues associated with selenium bioaccumulation and toxicity, EPA conducted a peer consultation workshop in May 1998 with selenium experts external to the Agency to ascertain the degree of scientific basis and consensus on these issues (EPA-822-R98-007).

Regarding the comment that EPA should not promulgate the CCC of 5 ug/L total recoverable selenium because it does not account for sulfate dependency, EPA disagrees. EPA disagrees with this comment because at this time, EPA believes that insufficient data exist to quantify the effect of sulfate on the chronic toxicity of selenium to aquatic life. Specifically, none of the data referenced by the commenter quantify the effect of sulfate dependency on the chronic toxicity of selenium forms to aquatic animals. Rather, they apply to the effect sulfate on selenium acute toxicity and bioaccumulation in aquatic animals, and its toxicity to algae. EPA's assertion of insufficient data on sulfate dependency of chronic toxicity is supported by the opinion of experts at EPA's 1998 peer consultation workshop who concluded: "...insufficient information exists to correlate water quality characteristics (such as sulfate, pH and TOC)" (p. 9 in EPA-822-R-98-007). Furthermore, EPA considers application of sulfate-toxicity relationships based on acute toxicity or bioaccumulation to chronic toxicity to be highly uncertain and

unreliable. This conclusion is also supported by expert opinion, who concluded that toxicity relationships derived from acute toxicity studies cannot be reliably extrapolated to chronic toxicity, owing to the important influence of dietary exposure on selenium chronic toxicity (p. 9 in EPA-822-R-98-007). After EPA's review of the available information and expert opinions, EPA believes that it would be premature to withdraw its proposed CCC of 5 ug/L because it does not address possible effects of sulfate on selenium chronic toxicity.

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Comment ID: CTR-009-005

Comment Author: City of Thousand Oaks

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: C-04b Selenium Aquatic Life

References:

Attachments? Y

CROSS REFERENCES

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Comment: At Federal Register page 42170, EPA begins its discussion about the derivation of its proposed Selenium criterion. This criterion is essentially based on a very few site specific field situations, and is applied, generally, to all situations regardless of how dissimilar they may be to the criterion spawning field incidents. The Kesterson Slough/Belews Lake type of problems and aquatic toxicity have not been found in other waters where Selenium is present in elevated concentrations, but that lack the sediment/food-chain conditions of these particular water bodies. Recent investigators found that Selenium water column concentrations were poor predictors of aquatic toxicity, and instead, posit a rationale for sediment-based toxicity criteria that EPA should consider as part of this rulemaking. (Selenium Sediment Toxicity Thresholds and Derivation of Water Quality Criteria for Freshwater Biota of Western Streams, Van Derveer and Canton, Environmental Technology and Chemistry and Selenium Toxicity to Aquatic Life: An Argument for Sediment-Based Water Quality Criteria, Canton and Van Derveer, Environmental Toxicology and Chemistry. Copies enclosed)

Response to: CTR-009-005

EPA derived its CCC for selenium using the Belews lake data in combination with laboratory data because laboratory toxicity data have been shown to consistently underestimate selenium effect levels compared to field situations. This underestimation of adverse effect levels by laboratory toxicity data is believed to be due to the bioaccumulation of selenium in aquatic food webs and subsequent exposure in top predator fish; a phenomenon which occurs in the field but not in routine laboratory tests. EPA acknowledges the conditions at Belews Lake that may differ from those at sites to which the CCC of 5 ug/L is applied. However, as discussed in EPA's response to CTR-058-006, EPA believes that the Belews lake data are reasonably consistent with adverse effect levels observed in other types of ecosystems and are scientifically defensible. For example, Hermanutz et al. (1992) and Schultz and Hermanutz (1990) studied the effects of chronic selenium exposure in large outdoor experimental streams in Minnesota on bluegill and fathead minnow, respectively. Despite the potential effect that the different hydrology of Belews lake and the Minnesota streams might have on selenium effect levels, the two stream studies showed adverse effects at levels similar to those observed in Belews lake (i.e., 10 ug/L). Furthermore, Lemly (1993) exposed bluegill in the laboratory to combined dietary (5.1 ug/g dry weight) and waterborne (4.8 ug/L) selenium and adverse effects including significant mortality in 60

days compared to fish in equivalent warm water exposures. Thus, EPA believes that the similarity between the adverse effect levels associated with Belews lake and the stream and laboratory studies supports the notion that EPA's CCC for selenium can be reasonably applied to other aquatic ecosystems.

Regarding sediment-based criteria, EPA believes that basing the CCC on concentrations of selenium in sediments is premature at this time because of the lack of scientific consensus on this issue and because of the preliminary nature and limited scope of the studies cited by the commenter. This assertion is generally supported by the opinions of experts at EPA's May 1998 peer consultation workshop on selenium who characterize the selenium/sediment toxicity database as sparse and largely limited to observations in western streams (p. 37-38 in EPA-822-R-98-007).

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Comment ID: CTR-016-005

Comment Author: San Francisco Bay RWQCB

Document Type: State Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-04b Selenium Aquatic Life

References:

Attachments? Y

CROSS REFERENCES

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Comment: Comments on the Proposed Selenium Freshwater Acute Criteria

The Regional Board supports EPA's efforts to develop an acute criterion for selenium that takes into account the presence of several oxidation states in natural waters, and the different and additive nature of toxicity associated with these different forms. The Board also supports EPA's determination that the existing chronic aquatic life criterion should not be modified to include consideration of different chemical species and that selenium interconverts from one chemical species to another in ambient waters. There are several practical consequences associated with the proposed additive toxicity approach that we would like to address from the perspective of our experience with selenium-related environmental problems in the San Francisco Bay Region.

The first comment is that the bioaccumulative potential of different chemical forms of selenium appears to be precisely the reverse of the toxicity potentials. For example, selenite is much more easily taken up into the food chain (preliminary estimates derived here in the Region are that selenite is about 10 times more bioavailable than selenate) but the proposed toxicity-based calculation method indicates precisely the opposite--that about ten times more selenite than selenate can be in the water column without causing unacceptable effects. The proposed model may work in systems that quickly flush out selenium such as stream segments, but do not accurately reflect conditions where selenium concentrations are elevated and occasionally spike upwards towards levels where acute toxic effects may occur--in the latter, bioaccumulative problems are likely more sensitive environmental endpoints. Thus, as a practical matter, the side-by-side application of the proposed acute and existing chronic criterion could have the unanticipated effect of over regulating selenate- and underregulating selenite-related bioaccumulation problems. For this reason, we recommend not using the proposed toxicity-based approach for a new acute criterion without additional considerations.

Additional considerations that EPA could make before changing the acute criterion to address this

practical problem include (a) reviewing the chronic criterion with the intent of including information to distinguish the bioaccumulative potential (and interconversion) of different chemical forms of selenium; (b) developing an alternative method for the acute criterion that takes into account the effect of short-term increases in selenium in aquatic systems on sensitive ecological indicators such as bird reproductive effects; or (c) developing more detailed guidance on the application of the acute and chronic criteria that would distinguish between aquatic systems potentially stressed with elevated levels of selenium in the food chain and those where such stresses are not a concern and the acute criteria are appropriate indicators of short-term problems.

Response to: CTR-016-005

EPA agrees with the commenter that it would be premature to promulgate the proposed freshwater acute criteria for selenium, and has chosen to defer promulgation of freshwater acute criteria for selenium until such time EPA has completed its evaluation of additional data and response to earlier comments on the proposed CMC equation in (61 FR58444, November 14, 1996. For additional detail on why EPA has chosen to defer promulgation of the freshwater CMC equation, see EPA's response to CTR-008-001.

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Comment ID: CTR-030-005

Comment Author: Utility Water Act Group

Document Type: Trade Org./Assoc.

State of Origin: DC

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-04b Selenium Aquatic Life

References:

Attachments? Y

CROSS REFERENCES

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## Comment: II. ISSUES NEEDING CLARIFICATION OR MAJOR SUBSTANTIVE CHANGES

### A. EPA's Proposed Selenium Acute Criterion is Technically Deficient

EPA's consideration of the toxicity of selenium has rapidly evolved over the last several years. In the Great Lakes Water Quality Rule (60 Fed. Reg. 15,366 (Mar. 23, 1995)), EPA proposed a selenium acute criterion that failed to consider the differing toxicities of two prevailing types of selenium, selenite and selenate. UWAG and other industry groups challenged the selenium acute criterion, and EPA eventually agreed to a remand of the criterion. The Court, however, ordered that the criterion be vacated and remanded. Following the vacatur, in November 1996 EPA proposed a new Great Lakes selenium acute criterion, adjusted to account for the selenite/selenate differences. UWAG submitted comments on the proposal, which are attached and incorporated into this comment document. (Attachment A). In the California proposal, EPA proposes to apply a selenium acute criterion that is identical to that proposed for the Great Lakes. EPA is still considering the comments it received in response to its revised acute selenium criterion for the Great Lakes - it has not taken final action on the proposal. UWAG therefore believes it would be inappropriate to promulgate the selenium acute criterion for California until the Agency has thoroughly assessed the record for the Great Lakes selenium acute criterion, and has determined appropriate final action on the Great Lakes criterion.

In commenting on the Great Lakes selenium acute criterion, UWAG raised the following points:

- (1) EPA should reexamine and expand the LC50 database underlying the criteria maximum concentration (CMC) for selenate, which as currently derived is inconsistent with the vast majority of the available toxicity data for selenate and selenite;
- (2) EPA should acknowledge and provide guidance for taking into account the effect of varying sulfate levels on selenium toxicity;
- (3) EPA should acknowledge and provide guidance for dealing with situations where simple additivity does not occur;
- (4) EPA should acknowledge and provide guidance for distinguishing between organic forms of selenium and elemental selenium, which may be found in anaerobic water under reducing conditions;
- (5) EPA should provide guidance on where in the waterbody the proportions of selenate, selenite, and organo-selenium will be determined; and
- (6) EPA should avoid making unfounded assumptions about the effect of potential selenium bioaccumulation on the CMC, and should delete from its final guidance or rule any discussion of unproven methodologies taking such bioaccumulation into account.

All of these arguments apply with equal force to the proposed acute selenium criterion for California. For further elaboration of each of these points, see Attachment A.

Response to: CTR-030-005

EPA agrees with the commenter that it would be premature to promulgate the proposed freshwater acute criteria for selenium, and has chosen to defer promulgation of freshwater acute criteria for selenium until such time EPA has completed its evaluation of additional data and response to earlier comments on the proposed CMC equation in (61 FR58444, November 14, 1996. For additional detail on why EPA has chosen to defer promulgation of the freshwater CMC equation, see EPA's response to CTR-008-001.

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Comment ID: CTR-030-011  
Comment Author: Utility Water Act Group  
Document Type: Trade Org./Assoc.  
State of Origin: DC  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-04b Selenium Aquatic Life  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: Dear Mr. Morris:

On behalf of the Utility Water Act Group ("UWAG")(\*1), we are writing to comment on EPA's "Proposed Selenium Criterion Maximum Concentration for the Water Quality Guidance for the Great Lakes System," published at 61 Fed. Reg. 58,444 (Nov. 14, 1996). UWAG appreciates the Agency's

decision to extend the comment period(\*2) for the selenium criterion maximum concentration ("CMC"), in light of the important technical issues raised by this proposed rule.

After reviewing the proposal, UWAG has the following recommendations:

- (1) EPA should re-examine and expand the LC50 database underlying the criteria maximum concentration ("CMC") for selenate, which as currently derived is inconsistent with the vast majority of the available toxicity data for selenate and selenite;
- (2) EPA should acknowledge and provide guidance for taking into account the effect of varying sulfate levels on selenium toxicity;
- (3) EPA should acknowledge and provide guidance for dealing with situations where simple additivity does not occur;
- (4) EPA should acknowledge and provide guidance for distinguishing between organic forms of selenium and elemental selenium, which may be found in anaerobic waters under reducing conditions;
- (5) EPA should provide guidance on where in the waterbody the proportions of selenate, selenite, and organo-selenium will be determined; and
- (6) EPA should avoid making unfounded assumptions about the effect of potential selenium bioaccumulation on the CMC, and should delete from its final guidance or rule any discussion of unproven methodologies taking such bioaccumulation into account.

Each of these recommendations is discussed in greater detail below.

#### 1. THE CALCULATED CMC FOR SELENATE IS INCONSISTENT WITH THE VAST MAJORITY OF THE SCIENTIFIC DATA. THUS, EPA SHOULD REEXAMINE AND EXPAND THE DATABASE UNDERLYING THE CMC FOR SELENATE BEFORE GOING FORWARD.

EPA's proposed equation for calculating a CMC for total selenium relies on CMCs for selenite and selenate that the Agency calculated in the "Ambient Water Quality Criteria for Selenium -- 1987" (EPA 440/5-87-008) (the "1987 Criteria Document") and in the "Great Lakes Water Quality Initiative Criteria Document for the Protection of Aquatic Life in Ambient Water (EPA-8200-B-95-004) (the "1995 Criteria Document"). See 61 Fed. Reg. 58,447. The CMC for selenate, which is fourteen times lower than the CMC for selenite(\*3), is particularly troublesome, given that the overwhelming weight of the toxicological evidence indicates that selenate is less toxic than selenite. See Attachment A to these comments. This is apparent both from the data cited in EPA's 1987 Criteria Document and from numerous published papers in which a given researcher compared selenate and selenite toxicity in paired tests. Looking at the entire EPA database for selenate and selenite for all species where there are LC<sub>50</sub> values for both oxidation states, *Gammarus pсеiidolimnaeus* is the only genus with a selenite LC<sub>50</sub>, to selenate LC<sub>50</sub>, ratio of less than one (1). While the ratio for *Gammarus* is 0.024, the range of ratios for all other genera range from 1.46 (for *Daphnia*) to 5.53 (for *A. hypnorum* (snail)).

A review of the CMC for selenate indicates that this anomalous result is caused by a combination of three factors: (1) the inclusion in the LC<sub>50</sub> database for selenate of a Genus Mean Acute Value ("GMAV") of 0.065 mg/l for *Gammarus pseudolimnaeus*; (2) the fact that the database for selenate is relatively sparse (consisting of only eight GMAVS); and (3) the application of EPA's standard statistical technique for calculating CMCS, which produces results that are highly conservative in situations where

data are sparse and there is a substantial gap between the most sensitive species and the next most sensitive species.

UWAG believes that this combination of factors has lead EPA to derive a CMC for selenate that is inconsistent with the vast majority of comparative toxicity data. As two of the peer reviewers who commented on the July 1996, Draft Addendum to the 1987 Water Quality Criteria Document for Selenium (the "Draft Addendum") noted, this result appears questionable at best. See Adams, W.J., "Review of Selenium Water Quality Criteria: Revised" at p. 9 (undated) ("Adams Comments") (Attachment B to these comments); and DeGraeve, G.M., and McIntyre, D.O., "Review of The Freshwater CMC for Selenium: Addendum to Ambient Water Quality Criteria for Selenite -- 1987" at p. 2 (Aug. 16, 1996) (Attachment C to these comments).

For example, Dr. Adams noted that another freshwater amphipod, *Hyalella azteca*, followed the expected pattern of toxicity and was more sensitive to selenite than selenate. Adams Comments at 9. As Dr. Adams notes, one would expect selenate to be less toxic than selenite, because selenate is more chemically stable and less likely to be metabolized as organo-selenium. *Id.*

Several technical concerns with the two studies of *Gammarus pseudolimnaeus* by Brooke, et al., on which the GMAV is based, could have affected the accuracy of the results. First, Brooke et al. did not report the background concentrations of likely contaminants in the City of Superior water used in the tests. Thus, it is not possible to assess whether such contaminants may have affected the test results.

Second, the researchers do not report the actual concentration of selenate (or selenite) during or after the test. Instead, they appear to have made the assumption that no conversion occurred. Such assumptions are inappropriate, as evidenced by EPA's protocol for the Water Effects Ratio procedure, which requires that both the total recoverable and dissolved forms of the metal be measured at the start and end of any static exposure test. U.S. EPA, 1994 Interim Guidance on Determination and Use of Water Effect Ratios for Metals, EPA-823-B-94-001, pp. 55-56.

Third, UWAG questions the propriety of the researchers' decision to prepare their own reference standard solution, which they apparently used both to calibrate their measurement instruments and to prepare the test dilutions. Such a procedure is not standard, and could lead to biased results.

In sum, EPA should not blindly use the Brooke, et al., data for *Gammarus* without further verification, nor should it apply the standard criteria derivation procedure to the available data without first considering the suitability of that procedure in light of the inconsistency between the result obtained and the overwhelming weight of the available evidence. UWAG understands that EPA has commissioned additional acute toxicity tests of three species -- *Gammarus pseudolimnaeus*, *Daphnia magna*, and *Ceriodaphnia dubia* -- with both selenate and selenite. UWAG applauds this effort. We urge the Agency to forego taking any final action on issuance of a selenium CMC for the Great Lakes until those tests are complete and have been subject to review and comment.

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(\*1) UWAG is a voluntary, ad hoc, non-profit, unincorporated group of seventy-three electric utility systems, which own and operate over fifty percent of the nation's total generating capacity. The Edison Electric Institute, the American Public Power Association, and the National Rural Electric Cooperative Association also are UWAG members.

(\*2) 61 Fed. Reg. 66,007 (Dec. 16, 1996).

(\*3) EPA appears to have reversed the CMCs for selenate and selenite in the discussion at 61 Fed. Reg. 58,446, col. 2 (Section B. 1.3.a. and b. of the proposal). In other places in the notice (e.g., 61 Fed. Reg. 58,445, col. 2), EPA correctly states that the calculated CMC for selenite is 185.9 ug/l and the CMC for selenate is 12.82 ug/l.

Response to: CTR-030-011

For reasons specified in the response to CTR-008-001, EPA agrees with the comment that the acute toxicity database for selenate should be reexamined prior to promulgating the proposed acute criterion for selenium. As described in the response to CTR-008-001, EPA is not promulgating its proposed freshwater acute criterion for selenium and is conducting additional acute toxicity tests on *Gammarus pseudolimnaeus* and two species of daphnids to confirm the relative toxicity of selenite and selenate.

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Comment ID: CTR-030-012

Comment Author: Utility Water Act Group

Document Type: Trade Org./Assoc.

State of Origin: DC

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-04b Selenium Aquatic Life

References:

Attachments? Y

CROSS REFERENCES

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Comment: Dear Mr. Morris:

On behalf of the Utility Water Act Group ("UWAG")(\*1), we are writing to comment on EPA's "Proposed Selenium Criterion Maximum Concentration for the Water Quality Guidance for the Great Lakes System," published at 61 Fed. Reg. 58,444 (Nov. 14, 1996). UWAG appreciates the Agency's decision to extend the comment period(\*2) for the selenium criterion maximum concentration ("CMC"), in light of the important technical issues raised by this proposed rule.

After reviewing the proposal, UWAG has the following recommendations:

- (1) EPA should re-examine and expand the LC50, database underlying the criteria maximum concentration ("CMC") for selenate, which as currently derived is inconsistent with the vast majority of the available toxicity data for selenate and selenite;
- (2) EPA should acknowledge and provide guidance for taking into account the effect of varying sulfate levels on selenium toxicity;
- (3) EPA should acknowledge and provide guidance for dealing with situations where simple additivity does not occur;
- (4) EPA should acknowledge and provide guidance for distinguishing between organic forms of selenium and elemental selenium, which may be found in anaerobic waters under reducing conditions;
- (5) EPA should provide guidance on where in the waterbody the proportions of selenate, selenite, and

organo-selenium will be determined; and

(6) EPA should avoid making unfounded assumptions about the effect of potential selenium bioaccumulation on the CMC, and should delete from its final guidance or rule any discussion of unproven methodologies taking such bioaccumulation into account.

Each of these recommendations is discussed in greater detail below.

## II. EPA SHOULD ACKNOWLEDGE AND PROVIDE GUIDANCE ON TAKING INTO ACCOUNT THE MODERATING EFFECTS OF SULFATE LEVELS ON SELENIUM TOXICITY.

The available evidence suggests that the toxicity of selenium to certain taxa decreases as sulfate concentrations increase. This relationship may be expected, because sulfur and selenium are chemically similar and follow many of the same physical, chemical, and biological pathways. Stadtman, T.C., 1974. Selenium Biochemistry. *Science*. 183:915-922. Thus, sulfur seems to directly compete with selenium at the molecular level.

For example, the relationship between sulfate concentrations and selenate toxicity was examined in a paper by Ogle and Knight (1996). The authors compiled all of the published data from acute toxicity tests on *Daphnia magna* in which sulfate was measured. They found a highly significant correlation (r-square value = 0.84) using untransformed data.<sup>(\*4)</sup> This strong correlation clearly indicates that the toxicity of selenate decreases as the concentration of sulfur increases.

In its proposed addenda to the 1987 Criteria Document, EPA acknowledges that sulfate may decrease the toxicity of selenate and selenite.<sup>(\*5)</sup> But UWAG believes that this issue specifically warrants more prominent discussion in the preamble to any final rule published by EPA. UWAG urges EPA to advise states, as part of this rulemaking, to consider the potential mitigating effects of sulfate on selenium toxicity, and to take those effects into account when establishing their own criteria.

In both the Draft Addendum and the September 1996 Addendum,<sup>(\*6)</sup> EPA also says that the Water Effects Ratio ("WER") procedure for deriving site-specific criteria can be used to derive appropriate criteria in situations where sulfate levels affect selenium toxicity. While UWAG agrees that such a procedure could be an appropriate mechanism for taking into account the moderating effects of sulfate, it is not clear how EPA anticipates the WER procedure would be applied.

For example, would it be applied to develop site-specific CMCs for selenate and selenite respectively, which could then be used in EPA's equation? Or does EPA expect that the WER procedures would somehow be applied to examine the effect of sulfate on the toxicity of the mixture of several selenium forms? If the latter, it is not clear how the procedure would work, since application of the WER typically involves comparison of the toxicity of a given pollutant in source waters with toxicity exhibited in the laboratory tests on which the generic criterion is based. Because EPA's proposed selenium CMC is based not on toxicity tests of mixtures, but instead on an equation that relies on calculated CMCs based on laboratory tests of two distinct selenium oxidation states, EPA should explain how the WER should be applied in this situation.

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<sup>(\*1)</sup> UWAG is a voluntary, ad hoc, non-profit, unincorporated group of seventy-three electric utility systems, which own and operate over fifty percent of the nation's total generating capacity. The Edison Electric Institute, the American Public Power Association, and the National Rural Electric Cooperative Association also are UWAG members.

(\*2) 61 Fed. Reg. 66,007 (Dec. 16, 1996).

(\*4) An even higher correlation would be expected if the data were log-transformed (the procedure EPA uses when examining the relationship between metal hardness and acute toxicity).

(\*5) Draft Addendum at p. 3-6; U.S. EPA, "The Freshwater CMC for Selenate: Addendum to Ambient Water Quality Criteria for Selenium -- 1987" (Sept. 30, 1996) ("September 1996 Addendum") at p. 6.

(\*6) See July 1996 Draft Addendum at p. 3-6; September 1996 Draft Addendum at p.6.

Response to: CTR-030-012

For the reasons specified in the response to CTR-008-001, EPA is not promulgating its proposed freshwater acute criteria for selenium. EPA is currently generating and evaluating additional toxicity data (including those that evaluate sulfate dependency of acute toxicity) to facilitate its review of the acute criterion for selenium.

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Comment ID: CTR-030-013

Comment Author: Utility Water Act Group

Document Type: Trade Org./Assoc.

State of Origin: DC

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-04b Selenium Aquatic Life

References:

Attachments? Y

CROSS REFERENCES

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Comment: Dear Mr. Morris:

On behalf of the Utility Water Act Group ("UWAG")(\*1), we are writing to comment on EPA's "Proposed Selenium Criterion Maximum Concentration for the Water Quality Guidance for the Great Lakes System," published at 61 Fed. Reg. 58,444 (Nov. 14, 1996). UWAG appreciates the Agency's decision to extend the comment period(\*2) for the selenium criterion maximum concentration ("CMC"), in light of the important technical issues raised by this proposed rule.

After reviewing the proposal, UWAG has the following recommendations:

- (1) EPA should re-examine and expand the LC50 database underlying the criteria maximum concentration ("CMC") for selenate, which as currently derived is inconsistent with the vast majority of the available toxicity data for selenate and selenite;
- (2) EPA should acknowledge and provide guidance for taking into account the effect of varying sulfate levels on selenium toxicity;
- (3) EPA should acknowledge and provide guidance for dealing with situations where simple additivity does not occur;

- (4) EPA should acknowledge and provide guidance for distinguishing between organic forms of selenium and elemental selenium, which may be found in anaerobic waters under reducing conditions;
- (5) EPA should provide guidance on where in the waterbody the proportions of selenate, selenite, and organo-selenium will be determined; and
- (6) EPA should avoid making unfounded assumptions about the effect of potential selenium bioaccumulation on the CMC, and should delete from its final guidance or rule any discussion of unproven methodologies taking such bioaccumulation into account.

Each of these recommendations is discussed in greater detail below.

### III. EPA SHOULD ACKNOWLEDGE AND PROVIDE GUIDANCE FOR DEALING WITH SITUATIONS WHERE SIMPLE ADDITIVITY DOES NOT OCCUR

EPA has not provided any guidance to the states on how to determine whether something less (or greater) than simple additivity might be occurring. While EPA notes in the September 1996 Addendum at p. 6 that the WER procedure might be used to account for "possible deviations from additivity," it does not explain how the WER could be used to accomplish this. For the reasons discussed above, it is not clear how the WER would be adapted for use in this context, where effects of a mixture under actual instream conditions are being compared to effects of separate metal oxidation states in laboratory tests.

UWAG believes that EPA has an obligation both to provide a more reasoned basis for its assumption that simple additivity occurs, and to explain what and how available procedures may be used to develop defensible criteria in situations where such additivity may not be occurring.

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(\*1) UWAG is a voluntary, ad hoc, non-profit, unincorporated group of seventy-three electric utility systems, which own and operate over fifty percent of the nation's total generating capacity. The Edison Electric Institute, the American Public Power Association, and the National Rural Electric Cooperative Association also are UWAG members.

(\*2) 61 Fed. Reg. 66,007 (Dec. 16, 1996).

Response to: CTR-030-013

For the reasons specified in the response to CTR-008-001, EPA is not promulgating its proposed freshwater acute criteria for selenium.

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Comment ID: CTR-030-014  
Comment Author: Utility Water Act Group  
Document Type: Trade Org./Assoc.  
State of Origin: DC  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-04b Selenium Aquatic Life  
References:

Attachments? Y  
CROSS REFERENCES

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Comment: Dear Mr. Morris:

On behalf of the Utility Water Act Group ("UWAG")(\*1), we are writing to comment on EPA's "Proposed Selenium Criterion Maximum Concentration for the Water Quality Guidance for the Great Lakes System," published at 61 Fed. Reg. 58,444 (Nov. 14, 1996). UWAG appreciates the Agency's decision to extend the comment period(\*2) for the selenium criterion maximum concentration ("CMC"), in light of the important technical issues raised by this proposed rule.

After reviewing the proposal, UWAG has the following recommendations:

- (1) EPA should re-examine and expand the LC50 database underlying the criteria maximum concentration ("CMC") for selenate, which as currently derived is inconsistent with the vast majority of the available toxicity data for selenate and selenite;
- (2) EPA should acknowledge and provide guidance for taking into account the effect of varying sulfate levels on selenium toxicity;
- (3) EPA should acknowledge and provide guidance for dealing with situations where simple additivity does not occur;
- (4) EPA should acknowledge and provide guidance for distinguishing between organic forms of selenium and elemental selenium, which may be found in anaerobic waters under reducing conditions;
- (5) EPA should provide guidance on where in the waterbody the proportions of selenate, selenite, and organo-selenium will be determined; and
- (6) EPA should avoid making unfounded assumptions about the effect of potential selenium bioaccumulation on the CMC, and should delete from its final guidance or rule any discussion of unproven methodologies taking such bioaccumulation into account.

Each of these recommendations is discussed in greater detail below.

#### IV. EPA SHOULD ACKNOWLEDGE AND PROVIDE GUIDANCE FOR DISTINGUISHING BETWEEN ORGANIC FORMS OF SELENIUM AND ELEMENTAL SELENIUM.

EPA proposes to employ an equation for calculating a CMC for total selenium, in part to address the potential toxicity of certain organo-selenium forms, which EPA says may be more toxic than selenate or selenite. EPA proposes to "assume that half of the measured or derived concentration of 'other' selenium forms is as toxic as selenate and half is as toxic as selenite." 61 Fed. Reg. 58,446. This proposal is troubling because it suggests that EPA may intend to allow states to "derive" organo-selenium concentrations by (1) measuring total selenium, selenate, and selenite; (2) subtracting the amount of selenite and selenate from the amount of total selenium; and (3) assuming that the difference is all organo-selenium, which EPA assumes is always at least as toxic as selenite or selenate.

Yet recent reviews of selenium cycling data show that some of that "other" selenium is likely to be elemental selenium, especially in anaerobic waters under reducing conditions. Maier, K.J. and A.W.

Knight. 1994: Ecotoxicity of selenium in freshwater systems. *Reviews of Environmental Contamination and Toxicology*. 134:31-48. Because of its insolubility and affinity for anoxic sediments, elemental selenium is far less bioavailable and, hence, less toxic than other selenium forms.

EPA's assumptions regarding the toxicity of organo-selenium forms clearly are based on a very limited amount of data on certain organic selenium forms. EPA has no data showing that either elemental selenium, or organic forms of selenium other than those for which data are provided in the proposal, are as or more toxic than selenite or selenate. Thus, EPA should specify that only measured amounts of the organic selenium forms for which it has sufficient toxicity data are to be included in the calculation. Equally important, EPA should specify that elemental selenium should be excluded from the calculation.

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(\*1) UWAG is a voluntary, ad hoc, non-profit, unincorporated group of seventy-three electric utility systems, which own and operate over fifty percent of the nation's total generating capacity. The Edison Electric Institute, the American Public Power Association, and the National Rural Electric Cooperative Association also are UWAG members.

(\*2) 61 Fed. Reg. 66,007 (Dec. 16, 1996).

Response to: CTR-030-014

For the reasons specified in the response to CTR-008-001, EPA is not promulgating its proposed freshwater acute criteria for selenium.

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Comment ID: CTR-030-015  
Comment Author: Utility Water Act Group  
Document Type: Trade Org./Assoc.  
State of Origin: DC  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-04b Selenium Aquatic Life  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: Dear Mr. Morris:

On behalf of the Utility Water Act Group ("UWAG")(\*1), we are writing to comment on EPA's "Proposed Selenium Criterion Maximum Concentration for the Water Quality Guidance for the Great Lakes System," published at 61 Fed. Reg. 58,444 (Nov. 14, 1996). UWAG appreciates the Agency's decision to extend the comment period(\*2) for the selenium criterion maximum concentration ("CMC"), in light of the important technical issues raised by this proposed rule.

After reviewing the proposal, UWAG has the following recommendations:

(1) EPA should re-examine and expand the LC50 database underlying the criteria maximum concentration ("CMC") for selenate, which as currently derived is inconsistent with the vast majority of the available toxicity data for selenate and selenite;

- (2) EPA should acknowledge and provide guidance for taking into account the effect of varying sulfate levels on selenium toxicity;
- (3) EPA should acknowledge and provide guidance for dealing with situations where simple additivity does not occur;
- (4) EPA should acknowledge and provide guidance for distinguishing between organic forms of selenium and elemental selenium, which may be found in anaerobic waters under reducing conditions;
- (5) EPA should provide guidance on where in the waterbody the proportions of selenate, selenite, and organo-selenium will be determined; and
- (6) EPA should avoid making unfounded assumptions about the effect of potential selenium bioaccumulation on the CMC, and should delete from its final guidance or rule any discussion of unproven methodologies taking such bioaccumulation into account.

Each of these recommendations is discussed in greater detail below.

#### V. EPA SHOULD CLARIFY THAT THE PROPORTION OF SELENITE, SELENATE, AND ORGANO-SELENIUM FORMS ARE TO BE DETERMINED INSTREAM, UNDER FULLY MIXED CONDITIONS.

EPA's proposal does not specifically discuss where in the waterbody the determination should be made as to the relative amounts of selenite, selenate, and organo-selenium present. Because water quality criteria are designed to protect aquatic organisms from plausible exposures instream,<sup>(\*7)</sup> it seems logical that states would make this determination under fully mixed instream conditions<sup>(\*8)</sup>.

While the proposal does not discuss this point, on p. 58,448 it refers to deriving the acute criteria for selenium "depending on the relative proportions of the various forms of selenium in a facility's discharge." EPA has provided no explanation or support for making the determination on a discharge-by-discharge basis, nor would such an approach be consistent with the purpose of EPA's water quality criteria. Moreover, such an approach appears inconsistent with EPA's statements about the potential for chemical conversion of different selenium forms in ambient waters and the effects of water chemistry on various selenium forms. See 61 Fed. Reg. 58,446. Thus, an approach which requires determination of relative proportions instream, under the exposure conditions that are likely to occur, would seem the more technically sound and logically consistent approach in most cases.

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(\*1) UWAG is a voluntary, ad hoc, non-profit, unincorporated group of seventy-three electric utility systems, which own and operate over fifty percent of the nation's total generating capacity. The Edison Electric Institute, the American Public Power Association, and the National Rural Electric Cooperative Association also are UWAG members.

(\*2) 61 Fed. Reg. 66,007 (Dec. 16, 1996).

(\*7) See, e.g., U.S. EPA, Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses (1985).

(\*8) UWAG recognizes that, in some cases, the concentrations of various selenium forms instream may

be so low as to make accurate analysis infeasible. In such cases, it may be more appropriate to allow for testing of the different selenium forms at the discharge point, as long as factors that are likely to affect selenium chemistry instream are taken into account.

Response to: CTR-030-015

For the reasons specified in the response to CTR-008-001, EPA is not promulgating its proposed freshwater acute criteria for selenium. When EPA finalizes its freshwater acute criterion for selenium, EPA will consider providing additional guidance on the determination of the fractions of total selenium that exist in various forms.

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Comment ID: CTR-030-016

Comment Author: Utility Water Act Group

Document Type: Trade Org./Assoc.

State of Origin: DC

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-04b Selenium Aquatic Life

References:

Attachments? Y

CROSS REFERENCES

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Comment: Dear Mr. Morris:

On behalf of the Utility Water Act Group ("UWAG")(\*1), we are writing to comment on EPA's "Proposed Selenium Criterion Maximum Concentration for the Water Quality Guidance for the Great Lakes System," published at 61 Fed. Reg. 58,444 (Nov. 14, 1996). UWAG appreciates the Agency's decision to extend the comment period(\*2) for the selenium criterion maximum concentration ("CMC"), in light of the important technical issues raised by this proposed rule.

After reviewing the proposal, UWAG has the following recommendations:

- (1) EPA should re-examine and expand the LC50 database underlying the criteria maximum concentration ("CMC") for selenate, which as currently derived is inconsistent with the vast majority of the available toxicity data for selenate and selenite;
- (2) EPA should acknowledge and provide guidance for taking into account the effect of varying sulfate levels on selenium toxicity;
- (3) EPA should acknowledge and provide guidance for dealing with situations where simple additivity does not occur;
- (4) EPA should acknowledge and provide guidance for distinguishing between organic forms of selenium and elemental selenium, which may be found in anaerobic waters under reducing conditions;
- (5) EPA should provide guidance on where in the waterbody the proportions of selenate, selenite, and organo-selenium will be determined; and

(6) EPA should avoid making unfounded assumptions about the effect of potential selenium bioaccumulation on the CMC, and should delete from its final guidance or rule any discussion of unproven methodologies taking such bioaccumulation into account.

Each of these recommendations is discussed in greater detail below.

#### VI. EPA'S ASSUMPTIONS REGARDING THE POTENTIAL EFFECTS OF SELENIUM "BODY BURDENS" ON THE ACUTE TOXICITY OF SELENIUM ARE NOT SUPPORTED BY SOUND SCIENCE, AND SHOULD BE DELETED FROM ANY FINAL RULE OR ADDENDUM EPA ULTIMATELY ISSUES.

In its proposal, EPA says that it is not proposing to amend the 304(a) criteria document for acute or chronic selenium embodied in the EPA document entitled "Ambient Water Quality Criteria for Selenium -- 1987" (EPA 440/5-87-0008). 61 Fed. Reg. 58,445, col. 1. Thus, EPA says, it does not intend to respond to any comments on that document. Yet on the same page, EPA also says that it is proposing to incorporate into the 1987 Criteria Document an addendum(\*9) reflecting its new proposed approach for calculating a selenium CMC. 61 Fed. Reg. 58,445, col. 3. UWAG believes that EPA should clarify whether or not it intends by this rulemaking to affect the national criteria guidance document. If so, EPA should provide potentially interested persons appropriate notice and an opportunity to comment on the implications of applying this approach beyond the Great Lakes.

UWAG agrees with EPA's decision not to go forward with any proposal based on the theory, set forth in the Draft Addendum and the September 1996 Addendum, that fish exposed to organic selenium may carry a "body burden" that makes them more sensitive to acute selenium exposure. We agree that there are no hard data to support this theory and, thus, reliance on it would be indefensible. Although elevated bioaccumulation of selenium occurring as a result of long-term exposure has been associated with reproductive impairment and mortality in some environments, EPA has provided no technical support for the notion that a certain level of selenium "body burden" predisposes an aquatic organism to greater, or lesser, sensitivity to acute exposures.

Furthermore, even if there were some theoretical or experimental basis for the hypothesis that a "body burden" of selenium increases an organism's sensitivity to acute effects, there is no rational basis for its application to a Great Lake. Great Lakes waters typically contain undetectable concentrations of selenium. Low background concentrations, combined with the enormous size of the Great Lakes and the migratory nature of Great Lakes fish, do not provide the same opportunity for bioaccumulation which might theoretically exist in small, well-mixed water bodies. This premise is confirmed by actual selenium levels in Great Lakes fish, which do not contain elevated concentrations of selenium (Schmitt and Brumbaugh, 1990).(\*10) A "body burden" model is therefore particularly inappropriate for the Great Lakes.

In the same vein, we agree with EPA's decision not to propose Guidance implementing an unsupported theory that pollutants should be placed in one of three categories, based on their potential to bioconcentrate and bioaccumulate, and that this potential be taken into account in deriving criteria. The theories contained in this section of the Addendum amount to pure speculation, supported by little or no empirical data. The relationship between body burdens and toxic effects is very controversial, and there is no scientific consensus that bioaccumulation per se results in adverse effects (e.g., Chapman, 1996).(\*11) For example, Reash et al. (1996)(\*12) showed that bluegills exposed to water selenium concentration, much higher than EPA's criterion continuous concentration ("CCC") of 5 ILglf resulted in elevated bioaccumulation of selenium but these "body burdens" did not cause mortality or reproductive impairment in the population. Moreover, the presence of additional pollutants which contribute to the

entire "body burden" of pollutants in an organism makes the relationship between tissue levels of one pollutant and adverse effects quite unclear. Heinz (1996) summarized these concerns when discussing the significance of selenium residues in birds:

Selenium's ability to interact with other environmental contaminants, especially other elements, also sometimes complicates an interpretation of toxic thresholds in tissues of birds . . . the reader needs to be aware that such interactions exist."

In summary, EPA's theory that a "body burden" of selenium could increase an organism's sensitivity to acute selenium exposure is interesting scientifically, but EPA currently has no mechanism to link the two processes. Furthermore, this concept makes little sense from an exposure viewpoint. Bioaccumulation occurs over a much longer period in an organism's life cycle relative to acute effects. Hence, UWAG strongly recommends that EPA keep the distinctions between acute and chronic exposure/effect unambiguous. Therefore, UWAG urges EPA to delete this discussion from any guidance or Addendum it issues for any selenium CMC.

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(\*1) UWAG is a voluntary, ad hoc, non-profit, unincorporated group of seventy-three electric utility systems, which own and operate over fifty percent of the nation's total generating capacity. The Edison Electric Institute, the American Public Power Association, and the National Rural Electric Cooperative Association also are UWAG members.

(\*2) 61 Fed. Reg. 66,007 (Dec. 16, 1996).

(\*9) It is not clear whether the September 1996 Addendum to which EPA refers is a draft or final document. If it is not a draft, then EPA's use of that document in its current form would appear to run contrary to the Agency's statements that the sections of the Addendum dealing with "body burden" and BAF/BCF issues are not being proposed for comment and will not be included in either the Great Lakes Guidance or the addendum to the criteria document. See 61 Fed. Reg. 58445, col. 1, 58446, col. 2. For the sake of clarity, EPA should provide the public with the specific version of any addendum that it proposes to apply in any context.

(\*10) Schmitt, C.J., and W.G. Brumbaugh. 1990. National contaminant biomonitoring program: concentrations of arsenic, cadmium, copper, lead, mercury, selenium, and zinc in U.S. freshwater fish. Archives of Environmental Contamination and Toxicology 19:731-747.

(\*11) Chapman, P.M. 1996. Is bioaccumulation useful for predicting impacts? Paper presented at 1996 meeting of the Society of Environmental Toxicology and Chemistry, Washington, D. C.

(\*12) Reash, R.J., T. Lohner, K.V. Wood, and R. Leville. 1996, Selenium in fish inhabiting a fly ash receiving stream: implications for national water quality criteria, Paper presented at 1996 meeting of the Society of Environmental Toxicology and Chemistry, Washington, D. C.

(\*13) Heinz, G. H. 1996. Selenium in birds. pp. 447-458 in W.N. Beyer, G. H. Heinz, and A.W. Redmond -- Norwood (eds), Environmental Contaminants in Wildlife: Interpreting Tissue Concentrations. SETAC Special Publication Series. Lewis Publishers, New York. 494 pp.

Response to: CTR-030-016

For the reasons specified in the response to CTR-008-001, EPA is not promulgating its proposed

freshwater acute criteria for selenium.

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Comment ID: CTR-051-002

Comment Author: Cal. RWQCB Central Valley Reg.

Document Type: State Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-04b Selenium Aquatic Life

References:

Attachments? N

CROSS REFERENCES

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Comment: Selenium

In 1996, the Regional Board amended the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, updating the selenium control program in the San Joaquin River watershed. The amendment contains water quality objectives and an implementation timetable for the San Joaquin River and numerous water bodies in the Grassland area. It was finalized earlier this year and has been forwarded to US EPA for approval. If approval of the 1996 amendments is not obtained before promulgation of the final Toxics Rule, the current federally recognized objectives will remain in place indefinitely. This will unnecessarily complicate a control program that is already complex in nature. Therefore, US EPA is urged to approve the 1996 amendment and recognize it as the appropriate selenium control effort for the affected water bodies.

Response to: CTR-051-002

The commenter expressed concerns that the selenium control program and implementation timetable contained in the 1996 amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Basin Plan) would be overridden by the CTR. The commenter also expressed concerns regarding the selenium criteria contained in the CTR and the potential for complications that could result from having state and federal criteria for the same waterbodies. EPA disagrees with these concerns.

First, it should be noted that already there are federal selenium criteria in place for parts of San Joaquin River, Salt Slough, Mud Slough (north), etc. These criteria were promulgated as part of the NTR on December 22, 1992. (57 Fed.Reg. 60848,60921, December 22, 1992.) The current CTR action does not change the NTR standards for those waters.

For the other named waterbodies subject to the 1996 Basin Plan amendments (Appendix 40), EPA is promulgating selenium criteria as part of the CTR. EPA has not yet approved the 1996 amendments, and in the absence of EPA-approved, site-specific criteria, EPA must promulgate criteria for toxic pollutants, including selenium, to meet the requirements of CWA section 303(c)(2)(B).

As with other site-specific criteria, if EPA approves the State's site-specific criteria for selenium for San Joaquin River, Salt Slough, Mud Slough (north), etc., EPA can undertake rulemaking to stay the the applicable selenium criteria in the CTR as well as the NTR. In the meantime, where site-specific criteria have already been adopted by the State in accordance with State law, but not yet acted upon by EPA,

such State-adopted criteria are in effect under State law. If those criteria are more stringent than applicable federal (CTR or NTR) criteria, those would be the controlling criteria for CWA purposes even without a stay of the applicable CTR (federal) criteria and would thus be implementable by the State. (This would not be affected by the so-called "Alaska Rule" which EPA proposed July 9, 1999, 64 Fed.Reg. 37072. See p. 37076.) This is the case with the site-specific criteria for selenium adopted by the State for the San Joaquin River, Salt Slough, Mud Slough (north), etc. Since the State must use the most stringent criteria in effect for its water quality programs, the 1996 Basin Plan site-specific selenium criteria remain in effect notwithstanding the CTR and NTR fresh water aquatic life criteria for selenium. Moreover, the selenium control program and implementation timetable will continue to apply to the State's site-specific criteria.

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Comment ID: CTR-058-005

Comment Author: Western States Petroleum Assoc

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-04b Selenium Aquatic Life

References:

Attachments? Y

CROSS REFERENCES

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Comment: 4. Acute Selenium Criteria. EPA's assumption that the toxicities of all forms of selenium are additive is not adequately supported.

In the Great Lakes Initiative rulemaking, at pp 61 FR 58444 and 58446, EPA states that new data indicate that all forms of selenium are additive, and therefore takes that conclusion into account in setting the CMC for selenium without any further discussion.

The basis provided by EPA to support this conclusion consists of studies reported by Hamilton and Buhl (1990) and Maier et al. (1993) [at p. 61 FR 58446]. Interestingly, these reports more accurately suggest that mixtures of different selenium forms may not always reflect "additive" effects in the classic sense where the effect of two chemicals is equal to the sum of the effects of the individual chemicals applied alone. Instead, these two studies suggest that the combined effect can be substantially less than or somewhat greater than the "simple additivity" which EPA assumes and on which it bases its proposed equation. Moreover, the 1987 criteria document data do not support the additivity assumption made by EPA.

EPA should either abandon its stated assumption or provide a scientifically defensible explanation for basing its assumption upon the two studies cited as authority.

Response to: CTR-058-005

For the reasons specified in the response to CTR-008-001, EPA is not promulgating its proposed freshwater acute criteria for selenium. Therefore, this comment is no longer applicable to the final rule. During its review of the acute criterion, EPA will be generating additional data on the additive toxicity of different selenium forms to sensitive aquatic organisms.

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Comment ID: CTR-058-006

Comment Author: Western States Petroleum Assoc

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-04b Selenium Aquatic Life

References:

Attachments? Y

CROSS REFERENCES

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Comment: 5. Chronic Selenium Criterion, SF Bay. WSPA does not support the choice of a freshwater criterion for SF Bay, Suisun Bay, San Pablo Bay and adjacent waters.

The proposed rule makes no attempt to defend the choice of a 5 ug/L freshwater criterion for selenium in these marine waters. This approach is arguably arbitrary and capricious. EPA says, more or less, we set this site-specific criterion in these waters in a previous rulemaking and we won't change. EPA should defend the choice of a criterion based on freshwater data for these waters, and stakeholders should be allowed to comment on the basis for this approach once they can see and evaluate EPA's attempt to justify it.

Furthermore, we dispute the 5 ug/L freshwater chronic criterion, which we understand to be based on the anomalous data of the Belews Lake, North Carolina study. We know of no other study where such a low threshold of concern was supported and challenge the Agency to cite any. Belews Lake is a lake with a very little flushing which arguably will not model many or most of the reaches of water in California to which EPA wants this criterion to apply (specifically, river reaches as well as the San Francisco/San Pablo/Suisun Bay system). We do not know what sort of mechanisms may occur in Belews Lake to convert selenium from one form to a more toxic form. We do not know if this transformation takes several steps. Additionally, we do not know whether these mechanisms would occur in the more common well-flushed reaches to which EPA seeks to apply the criterion here in California. EPA should justify both the value of 5 ug/L and the use of a freshwater criterion in marine waters.

Response to: CTR-058-006

EPA promulgated the freshwater CCC of 5 ug/l for San Francisco Bay, Suisun Bay, San Pablo Bay, and adjacent waters as part of the National Toxics Rule [NTR](57 FR 60848-60921, December 22, 1992). EPA disagrees that this approach is arbitrary and capricious. EPA explained its rationale for this decision in response to comments for the NTR (57 FR 60898, December 22, 1992). The purpose of today's rule is to promulgate criteria that fill the gap created when previous State criteria were invalidated as a result of State litigation. The rule is not intended to change or supersede any criteria previously promulgated for California in the NTR, as amended (Administrative Stay of Federal Water Quality Criteria for Metals and Interim Final Rule, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants; States' Compliance-Revision of Metals Criteria, 60 FR 22228, May 4, 1995). The freshwater CCC for selenium is re-printed in the text of the CTR for the convenience of the user.

EPA disagrees with the commenter that the Belews Lake data are "anomalous" and are therefore not appropriate for application to California waters. The selenium effects data of Belews lake are supported

by other more recent data indicating adverse effects on aquatic organisms at comparable levels. For example, in a year-long study of selenium effects on aquatic life in outdoor experimental streams, Hermanutz et al. (1992) report statistically significant reductions in adult bluegill survival during the final 98-d exposure period to 10 ug/L selenium (introduced as sodium selenite) and complete mortality at 30 ug/L during the same exposure period. Hermanutz et al. (1992) also report statistically significant reductions in embryo hatch and higher incidence of developmental abnormalities at 10 ug/L and 30 ug/L compared to controls. This level (10 ug/L) is the same as that associated with unacceptable effects in the Belews lake study upon which the freshwater CCC is based. A chronic test conducted by Schultz and Hermanutz (1990) on the effect of selenium on fathead minnow in the same outdoor experimental streams is also consistent with results from the Belews Lake data. Specifically, Schultz and Hermanutz (1990) report statistically significant differences in the incidence of developmental abnormalities (lordosis and edema) in larvae from fish exposed in 10 ug/L streams compared to controls. In a laboratory study, Lemly (1993) exposed bluegill exposed to combined dietary (5.1 ug/g dry weight) and 4.8 ug/L waterborne selenium and reported that a combination of elevated selenium and low temperature resulted in reduced feeding, depletion of body lipids and significant mortality in 60 days (termed winter stress syndrome) compared to fish in equivalent warm water exposures.

The Belews lake data and supporting studies used to derive the freshwater CCC for selenium indicate that adverse effects on bluegill occurred at about 10 ug/L (as was also observed in experimental streams by Hermanutz et al., 1992) and that bluegill were unaffected at concentrations of 5 ug/L or below. Therefore, EPA believes that the similarity between the adverse effect levels associated with Belews lake and those of Hermanutz et al. (1992), Schultz and Hermanutz (1990), and Lemly (1993), which involved very different exposure systems, demonstrates that the Belews lake data are not "anomalous" as the commenter stated and can be reasonably extrapolated to other types of waterbodies. Finally, EPA notes that because these and other new data have become available since EPA's publication of the aquatic life criteria for selenium in 1987, EPA is currently reviewing this new data for potentially revising as appropriate its 304(a) criteria for selenium.

#### References:

Lemly, A.D. 1993. Metabolic stress during winter increases the toxicity of selenium to fish. *Aquatic Toxicology*, 27:133-158.

Hermanutz, R.O., K.N. Allen, T.H. Roush and S.F. Hedtke. 1992. Effects of elevated selenium concentrations on bluegills, *Lepomus macrochirus*, in outdoor experimental streams. *Environ. Toxicol. Chem.* 11(2):217-224.

Schultz, R. and R. Hermanutz. 1990. Transfer of toxic concentrations of selenium from parent to progeny in the fathead minnow (*Pimephales promelas*). *Bull. Environ. Contam. Toxicol.* 45:568-573.

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Comment ID: CTR-060-007

Comment Author: San Diego Gas and Electric

Document Type: Electric Utility

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-04b Selenium Aquatic Life

References:

Attachments? N

## CROSS REFERENCES

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Comment: PROVISIONS SDG&E DOES NOT SUPPORT

As described in the following comments SDG&E does not support the following provisions:

Selenium acute criteria is technically deficient

This rule proposes to adopt the proposed revised Great Lakes acute selenium criterion. EPA has yet to respond to comments submitted on this criterion during a previous comment period. Until such time as EPA reviews and responds to the comments submitted previously on this proposed criterion, it would be premature for EPA to adopt the criterion as proposed in the CTR.

Response to: CTR-060-007

EPA agrees with the comment that it should not promulgate its proposed acute freshwater criterion for selenium until after it completes its response to comments on a previous proposal that relies on the same criterion. For additional reasons specified in the response to CTR-008-001, EPA is not promulgating its proposed freshwater acute criteria for selenium.

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Comment ID: CTR-103-001

Comment Author: Fish and Wildlife Service

Document Type: Federal Government

State of Origin: CA

Represented Org:

Document Date: 10/10/97

Subject Matter Code: C-04b Selenium Aquatic Life

References:

Attachments? N

CROSS REFERENCES

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Comment: The U.S. Environmental Protection Agency (EPA.) recently received a letter, directed to your attention, from Daniel G.Nelson (Executive Director of the San Luis & Delta-Mendota Water Authority) dated September 15, 1997. Mr. Nelson's letter presented an objection to proposed freshwater selenium criteria recently announced by EPA (California Toxics Rule; Federal Register Vol. 62 (150):42160-42208, August 5, 1997). Mr. Nelson asserts in his letter that the proposed "... freshwater selenium criteria are scientifically inadequate because they fail to take account of the known interference between selenate and sulfate uptake in high sulfate waters like those in the San Joaquin Valley...." Mr. Nelson then requests that EPA delay adoption of proposed water-quality criteria for selenium, pending review of the sulfate-interference issue.

The U.S. Fish and Wildlife Service (Service) recently reviewed our copy of Mr. Nelson's letter and does not see a scientifically substantive basis for justifying the delay and further review that Mr. Nelson requests. Sulfate-interference does not appreciably affect selenium bioaccumulation in real-world environments and that has been known for at least 60 years.

Dr. Joseph Skorupa, of my environmental contaminants staff, has recently reviewed the issue of sulfate-interference and its relevance to establishment of freshwater selenium criteria and has concluded

that fish and wildlife toxicity thresholds for waterborne selenium are not sulfate dependent (Skorupa, in press). Mr. Nelson supports his view that sulfate-interactions should be an important regulatory consideration by citing recent laboratory bench studies (Hansen et al. 1993; Williams et al. 1994; Ogle and Knight 1996). Such studies often suffer from the so-called lab-to-field-dilemma (Landis and Yu 1995:28) because they are very simplified and environmentally unrealistic and cannot be extrapolated to the real world. The authors of the studies that Mr. Nelson cites are clearly aware of this important dilemma.

For example, Hansen et al. (1993:77) wrote:

"Thus, at this time, it does not appear that we have sufficient evidence to justify the consideration of sulfate as a factor in the regulation of Se in aquatic environments.

Williams et al. (1994:452) wrote:

"At present, there is little information available that allows us to assess how relevant this study's conclusions will be in natural waters containing a complex assemblage of selenium species.

Ogle and Knight (1996:278) reported that in the region of 5 ug/L waterborne selenium (the critical threshold region recognized in the California Toxics Rule):

"...the differences [in selenium bioaccumulation and toxicity] between extremely different sulfate concentrations are not significant.....

There is a clear record of highly relevant field data supporting Hansen et al.'s and Williams et al.'s cautions against extrapolation of their lab results. Field data show that simplistic selenate-sulfate lab bench results do not extrapolate well to real environments (Skorupa, in press). Realworld data unanimously support the conclusion that toxicity thresholds for selenium are not sulfate dependent. In the absence of any new field data to the contrary, the objection raised in Mr. Nelson's letter must be viewed as inapplicable..

The findings of Dr. Skorupa's review can be summarized as follows:

As early as the 1930's (e.g., Hurd-Karrer 1937, 1938) competitive uptake interactions between selenate and sulfate had already been confirmed experimentally. In the same era it had also already been demonstrated that sulfate-interference did not apply to any form of environmental selenium other than selenate, and that the field significance of sulfate-interference was negligible. Sixty years ago, Beath (1937) concluded that the "...sulfur-selenium antagonism theory has not been found generally applicable to farm and range practices [for ameliorating selenium toxicity to range animals] of the Rocky Mountain region." Thus, although recent experiments cited by Mr. Nelson (Hansen et al. 1993; Williams et al. 1994; Ogle and Knight 1996) provide useful information corroborating earlier work, it is inaccurate for Mr. Nelson to suggest that recent studies provide any fundamentally new conceptual insights not already known by 1987 when EPA derived the 5 ug/L chronic criterion for selenium.

Twenty years ago, Birkner (1978) came to essentially the same conclusion for aquatic habitats that Beath (1937) had reported for open range habitats. Birkner surveyed 30 freshwater sites in Colorado and Wyoming for waterborne, sediment, and foodchain selenium content. The sites that Birkner surveyed included levels of dissolved sulfate that ranged from 5-9,611 mg/L. Statistical analyses of his data led Birkner to conclude that levels of dissolved sulfate did not influence the level to which selenium is bioaccumulated by aquatic organisms.

The lack of sulfate dependency for selenium bioaccumulation in the real world was affirmed once again in the late 1980's and early 1990's. This time the Service collected eggs of waterbirds from agricultural evaporation ponds in California that varied in dissolved sulfate concentrations from 2,000-100,000 mg/L. Selenium concentrations in the bird eggs, which are directly related to the contamination of aquatic foodchains at each sampling site, were strongly predictable from waterborne concentrations of selenium regardless of variable sulfate concentrations that spanned three orders of magnitude (Skorupa, in press). The Service's failure to find a sulfate-interference effect for bioaccumulation of selenium in bird eggs, was corroborated by studies of aquatic invertebrates (the food supply for birds) at the same sites by the California Department of Water Resources (John Shelton, unpubl. data). Combining Birkner's (1978) results with the results from California evaporation ponds, no sulfate-interference effect could be detected in the real world for dissolved sulfate concentrations spanning from 5-100,000mg/L! Furthermore, the field-verified toxic threshold point of 3-4 ug/L waterborne selenium for birds at the high-sulfate ponds in California showed excellent correspondence with the field-verified toxic threshold point of 2-5 ug/L for fish residing in the low-sulfate waters of Belews Lake, North Carolina (Skorupa, in press).

Finally, a comprehensive review of the best documented case studies of selenium poisoning in nature revealed that 7 of 12 real-world toxic episodes occurred at sites with high-sulfate waters (Skorupa, in press). This rich body of real-world data on selenium toxicity to fish and wildlife affirmatively, and unequivocally, supported the conclusion that toxic thresholds for selenium are not sulfate dependent.

Why are simple laboratory bench studies contradicted by field data? Bench studies confirm that high-sulfate waters can reduce bioaccumulation of selenate, but not eliminate it. Thus, even in the face of high concentrations of dissolved sulfate, over time, functionally significant amounts of waterborne selenate are nonetheless taken up by biota and transformed to other forms of environmental selenium that are not subject to sulfate-interference. Those other forms of selenium are far more bioaccumulative than selenate, are free of any interference from sulfate and, over time, come to dominate the bioaccumulation process (e.g., Besser et al. 1989). Recent 48-hr-96-hr lab bench experiments are simply too short in duration and too simple in design to mimic this progression from selenate-dominated water to a complex mixture of multiple chemical species of selenium that characterizes the ecotoxicology of selenium in the real world.

For example, drainage water in the San Joaquin Valley of California was found to contain selenium as selenate, selenite, and selenomethionine (Se-Meth) in a ratio of approximately 18:3:1 (Besser et al. 1989). Bioconcentration factors for periphyton, however, showed a reverse ratio of about 1:6:120 (Besser et al. 1989). Thus, the approximate ratio of selenium uptake from selenate, selenite, and Se-Meth would be 18:18:120. Therefore, only about 11 percent (18/156) of bioaccumulated selenium in the periphyton would be taken up directly from the inventory of dissolved selenate. Under these circumstances, even if a sulfate-interference effect as high as 50 percent were occurring it would have only about a 5 percent ( $0.5 \times 0.11$ ) inhibitory impact on overall bioaccumulation of selenium. At toxic threshold exposures in the region of 2-5 ug/L waterborne selenium, a 5 percent effect would be very negligible in absolute terms. Even this example probably overestimates the contribution of selenate to bioaccumulation of selenium because it does not account for the cumulative loading of predominantly non-selenate species of selenium into aquatic sediments, which is another major bioaccumulation pathway that further devalues the relative importance of dissolved selenate selenium. It is quite plausible that in real aquatic environments even where concentrations of dissolved sulfate are low, only a minute proportion of selenium bioaccumulation is due to direct uptake of selenate selenium.

Much of the technical information presented in this letter was also presented to the scientific consultants

retained b the San Luis & Delta-Mendota Water Authority during a meeting with Dr. Skorupa on July 19, 1995. If Mr. Nelson possesses fundamentally new data that are unequivocally relevant to the real-world, by all means the data should be evaluated by EPA. The studies that Mr. Nelson cites in his letter do not, however, constitute such data.

Questions regarding this letter may be directed to Drs. Joseph Skorupa or Steven Schwarzbach by contacting them at (916)-979-2110.

Response to: CTR-103-001

EPA agrees with the commenter that by itself, the current state of the science on the sulfate dependent toxicity of various selenium forms is not adequate justification to delay promulgation of freshwater selenium criteria in the CTR. However, EPA has chosen not to promulgate acute freshwater criteria for selenium for the reasons stated in EPA's response to CTR-008-001. EPA has chosen to proceed with promulgation of the freshwater CCC for selenium for the reasons stated in EPA's response to CTR-008-001. EPA will consider additional data on sulfate dependency of selenium toxicity, including those cited by the commenter, during its review of freshwater selenium aquatic life criteria.

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Subject Matter Code: C-05b Lead Aquatic Life

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Comment ID: CTR-020-013

Comment Author: City of Stockton

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-05b Lead Aquatic Life

References:

Attachments? Y

CROSS REFERENCES

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Comment: II. Use of New Scientific Information

The City acknowledges and supports EPA's update of several water quality criteria including those for mercury, cadmium and arsenic. While a number of criteria were updated to reflect current scientific information, there are a few notable exceptions.

The following briefly addresses the key updates and omissions that should be addressed in the final publication of this rule.

## 2. Lead

The 1984 lead criteria establishes very stringent chronic criteria due to an artifact of EPA's criteria calculation procedure - where inadequate data are available, a lower criteria is calculated. Thus, even where it is apparent that less restrictive criteria should be developed, the calculation procedures produce a lower criteria. This anomaly of criteria calculation could have been rectified by updating the criteria to add additional organisms that were tested since the 1984 Lead Criteria Document was published.

Unfortunately, EPA failed to update the lead chronic water quality criteria which would have increased the chronic value from about 1.5 ppb to 15 ppb. This update has been acknowledged by EPA Duluth representatives in a number of public forums as acceptable, and it was approved for the Delaware River Basin Commission, a quasi-federal entity in 1996 (Exhibit 9). EPA's failure to update the lead database for the CTR is arbitrary and capricious and needs to be corrected

### (a) The Technical Basis for EPA's Lead Criteria is Flawed

EPA criteria for lead were first published in 1980 and revised in 1984. The database from which the criteria were derived is very limited. EPA assessed only ten freshwater species and eleven saltwater species. Consequently, the data used to develop the lead criteria do not meet the minimum data requirements set forth in EPA's guidelines. (\*41) In addition, the analytical methodology (acid soluble metal) used to assess lead concentration in the toxicity tests used to develop the criteria was a rigorous digestion that measured non-toxic, as well as toxic, forms of the metal.

Because the tests used to develop the lead criteria measured non-toxic forms of metal, and lead salts tend to form carbonates and precipitate readily from solution, the criteria overestimated the toxic fraction of lead. Thus, the lead criteria are very conservative. In addition, statistical deficiencies in the underlying data base render the lead criteria significantly more uncertain than other criteria derived using the requisite data. As a result, some states have deferred adoption of EPA's lead criteria; others have adopted

more appropriate lead standards that are scientifically supported. North Carolina, for example, adopted a 25 ug/l lead standard (as total recoverable) because:

We believe that a standard based on an acid-soluble equivalent value of 1.3 ug/l Pb is extremely and unnecessarily overly protective, especially when considering the vast differences in Pb concentration that can be measured from the same sample, as shown by EPA's data. Since these values can vary as much as 50-75 fold for Pb according to EPA's data, implementing a standard of 25 ug/l measured as total recoverable metal which is less than 20 times higher than the acid-soluble criterion of 1.3 ug/l) is sufficiently conservative and technically sound... (\*42)

The geometric mean for water effect ratios reported for lead using *C. dubia* and fathead minnows are consistently greater than five (5), which confirms a reduction in lead toxicity in natural waters by a factor of five relative to laboratory water of minimal complexing ability. (\*43) This is not surprising since lead is readily complexed by inorganic and organic ligands in natural waters. (\*44) Pagenkopf reported that relatively low concentrations of humic acids readily detoxify lead:

If there is 1 mg/liter humic acid (HA) in the water with an effective gram formula weight of 1000, a sizable amount of lead could be complexed. With these conditions the HA concentration would be  $10E-6M$ , and if the 108 stability constant were applicable, essentially all of the humic acid would complex  $PbE+2$ . This would raise the total nontoxic species concentration and in fact could cause a shift from apparent toxicity to nontoxicity. (\*45)

Given the abundance of complexing agents in biologically treated effluents and storm waters, a dissolved lead standard based on EPA's criteria is overly conservative.

(b) Conclusions With Respect to Lead

EPA should withdraw the proposed lead standard as unnecessarily restrictive and recalculate the criteria to reflect the additional studies conducted since the criteria were issued. Given the prevalence of lead in virtually all municipal effluents and storm waters, a minor change in the lead criteria will significantly affect treatment requirements. EPA should not apply the lead chronic criteria to storm waters where elevated TOC levels are prevalent and will detoxify the metal present.

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(\*41) See National Guidelines.

(\*42) Letter from North Carolina DEHNR to EPA Region IV (January 23, 1990) (Exhibit 7).

(\*43) See, Hall, Scott, et al. "The Use of Stream Side Macrocosms in the Evaluation of Copper, Lead and Zinc Effects on Acidic Stream Biota in Support of Deriving Site-Specific Water Quality Criteria." See also, Brungs, W. A. et al. "Synopsis of Water-Effects Ratios for Heavy Metals as Derived for Site-Specific Water Quality Criteria" (March 1992).

(\*44) EPA Lead Criteria Document at 3.

(\*45) Pagenkopf, Gordon K. "Metal Ion Speciation and Toxicity in Aquatic Systems, in Concepts in Metal Ion Toxicity." G.K Pagenkopf, H. Sigel, eds., at 113.

Response to: CTR-020-013

Although EPA agrees that the freshwater lead data set is less diverse by one taxon than the Aquatic Guidelines call for, EPA is retaining the criteria in the rule. EPA does not believe that the decreased taxonomic diversity in the data set is by itself a substantial shortcoming that would invalidate the criterion.

The comment about statistical deficiencies is not sufficiently specific for EPA to be able to identify to what the comment refers.

EPA is addressing the issue on bioavailability of different forms of lead (that is, the presence of "non-toxic" forms of lead) through expressing the criterion as dissolved lead and as function of a site-specific Water-Effect Ratio.

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Subject Matter Code: C-06b Chromium Aquatic Life

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Comment ID: CTR-061-013

Comment Author: G. Fred Lee & Associates

Document Type: Academia

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-06b Chromium Aquatic Life

References:

Attachments? Y

CROSS REFERENCES

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Comment: Page 42168, third column, near the bottom, states, "However, EPA believes that it is appropriate to propose criteria in this rule based on the most recent data." Following that statement is a table (located on the bottom of page 42168 and top of 42169) in which the proposed freshwater criteria (CMC) for Cr VI is 16 ug/L. That table also lists the CCC for Cr VI as 11 ug/L. I have reviewed the literature on Cr VI toxicity (see attached "Chromium Speciation: Key to Reliable Control of Chromium Toxicity to Aquatic Life ") and find that 11 ug/L will not protect zooplankton from toxicity. There is substantial reliable data in the literature which show that Cr VI is toxic to zooplankton at 0.5 ug/L. This situation should have been discussed in the proposed CTR so regulatory agencies, the regulated community and the public learn that an 11 ug/L Cr VI criterion will not prevent zooplankton toxicity and could thereby violate the narrative toxicity standard of no discharge of toxic chemicals in toxic amounts. The CTR should also discuss the fact that in many ambient water systems Cr III (which is allowed to be discharged at 50 ug/L) can convert to Cr VI resulting in concentrations of Cr VI above those that are known to be toxic to zooplankton.

Response to: CTR-061-013

EPA does not agree that the 11 ug/L criterion will not protect zooplankton from toxicity. EPA believes its criterion for chromium is adequately protective. EPA has examined the quotation appearing in the submitted document "Chromium Speciation: Key to Reliable Control of Chromium Toxicity to Aquatic Life". EPA believes that the comment's Elnabarawy et al. (1986) citation refers to those authors' data published in Environmental Toxicology and Chemistry (Vol 5, pp. 393-398), and has examined that reference.

This material dealt with additional toxicity testing data rather than the data EPA used to derive the criterion. The material does not have data on previously untested species. Consequently, even if EPA were to include the Elnabarawy et al. (1986) data, then the results would be averaged with other study results for the same species, in order to obtain new Genus Mean Acute Values and Acute-Chronic Ratios, and recalculate the CMC and CCC.

Furthermore, even if the Elnabarawy et al. (1986) data were acceptable and included in a new criteria derivation, under no circumstances would EPA's criteria derivation procedure allow setting the criterion to the lowest test result (0.5 ug/L) among replicate tests. The averaging of test results prevents the criteria from being unnecessarily influenced by experimental errors. Consequently, even if EPA were to update the criterion for this rule, it cannot be predicted whether the entire body of new data (as opposed to the lowest test results therein) would cause the criterion to go up or down, or leave it essentially unchanged.

An additional problem is that there is doubt as to whether EPA could judge the Elnabarawy (1986) data to be acceptable. Although all or nearly all treatment concentrations for *Ceriodaphnia reticulata* and *Daphnia magna* had reproductive success that was statistically significantly lower than the control response, essentially all treatments had the same response, only slightly lower than the control, despite 100 fold differences in concentration.

Data from Elnabarawy et al. (1986)

Cr (VI) ug/L	Average number of young per adult		Adult survival percentage			
	D.magna	D.pulex	C.reticulata	D.magna	D.pulex	C.reticulata
Control	85	53	23	100	100	100
0.5	76	44	16*	100	100	100
1.5	69*	44	16*	100	80	100
5.0	71*	45	16*	100	80	100
15.0	71*	45	14*	60	80	100
50.0	47*	42	14*	0*	50	100

\* Significantly different from control, p less than or equal to 0.05.

The expected behavior for this experiment would be a sigmoidal concentration-response curve (in this case a backwards "S" shape) with the low concentrations displaying similar responses to the control, and the higher concentrations with more or less progressively lower reproductive or survival success. The character of Elnabarawy et al. (1986) data suggest that the somewhat depressed reproductive success for *D. magna* between 0.5 and 15.0 ug/L and for *C. reticulata* between 0.5 and 50.0 ug/L may not due to chromium.

Consequently, EPA cannot accept the comment's contention that new evidence has demonstrated that the CCC specified in the rule, 11 ug/L, would not adequately protect aquatic life uses.

With regard to the conversion of chromium (III) to chromium (VI), EPA does not agree that the rule, in setting forth criteria concentrations, needs any provision for interconversion of oxidation states. EPA believes that site-specific fate considerations are best handled during the waste load allocation or permitting processes, not during the state-wide standards setting process.

Finally it should be noted that in analyzing the toxicity tests underlying the CMC and CCC for chromium (III), EPA assumed that none of the chromium (III) was converted to chromium (VI). To the degree (if any) that chromium (III) was oxidizing to chromium (VI) in the underlying toxicity tests, the chromium (III) criterion would already account for that degree of conversion.

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Subject Matter Code: C-07b Cyanide Aquatic Life

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Comment ID: CTR-058-013

Comment Author: Western States Petroleum Assoc

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-07b Cyanide Aquatic Life

References:

Attachments? Y

CROSS REFERENCES

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Comment: Marine Cyanide Criteria. In 1996 WSPA submitted to the Washington Department of Ecology three reports in support of developing site-specific water quality criteria for cyanide. These reports were:

\* Acute Toxicity of Cyanide to Two Species of West Coast Crabs, *Cancer productus* and *Cancer gracilis*;

\* Literature Review of Cyanide Toxicity Data \* Range and Distribution of *Cancer branneri*

These studies support an acute criterion of 9.4 ug/L and a chronic criterion of 1.5 ug/L using the EPA calculation procedures with data for *C. irroratus* being replaced by the Genus Mean Acute Value for four West Coast *Cancer* species. An acute to chronic ratio of 6.458 was used based on a recommendation by Mark Hicks of the Department of Ecology.

WSPA incorporates these studies into the record by reference (we will transmit the studies under separate cover) and urges EPA to review these data and support site specific marine cyanide criteria of 9.4 ug/L and 1.5 ug/L for California as well.

Response to: CTR-058-013

EPA agrees with incorporating the data generated for *Cancer magister*, *C. oregonensis*, *C. productus*, and *C. gracilis* into the data set underlying the cyanide saltwater criterion. The data for all tested species in genus *Cancer* are then as follows:

*C. magister*: LC50s 51.24 & 91.5 ug/L; SMAV 68.47 ug/L

*C. oregonensis*: LC50s 111.3 & 154.1 ug/L; SMAV 131.0 ug/L

*C. productus*: LC50 219 ug/L; SMAV 219 ug/L

*C. gracilis*: LC50 153 & 135 ug/L; SMAV 143.7 ug/L

*C. irroratus*: LC50s 4.2 & 5.7 ug/L; SMAV 4.893 ug/L

Within a genus, such as *Cancer*, in situations where toxicity data are available for some of the species, but not all of the species found in a state, data on tested resident species and data on tested non-resident species are both used to represent the untested species, when calculating site- or state-specific standards.

In contrast, for the State of Washington, where all resident *Cancer* species were tested (that is, *C. magister*, *C. oregonensis*, *C. productus*, and *C. gracilis*), EPA agreed that the GMAV for *Cancer* could be

recalculated after excluding *C. irroratus*, because (a) *C. irroratus* did not occur in Washington, and (b) it could not represent any untested Cancer species in that state since all resident Cancer species had been tested.

However, EPA has no data on the occurrence of Cancer species in California. Nor did the commenter submit any such data. As a result, EPA is unable to make the determination that *C. irroratus* could not represent any untested Cancer species occurring in California. That is, with the information available, EPA is not able to determine whether some Cancer species other than the above five occurs in California. If such Cancer untested species did occur in California, then *C. irroratus* would be considered as likely as any of the others above to represent the sensitivity of the untested Cancer species, and would thus not be deleted from the data set. Consequently, for this rule, the cyanide criterion was determined by considering all five of the above species.

The SMAV for *C. irroratus* is more than an order of magnitude less than the LC50 for any other species in the genus *Cancer*. The tests on *C. irroratus* were flow-through, measured tests at 20 degrees C. The tests on the other *Cancer* species were renewal, measured tests at 10 degrees C. EPA has not found any persuasive reason to believe the *C. irroratus* data to be in error. The observed difference between *C. irroratus* and the other *Cancer* species may be due to (a) genuine biological differences among species (although such large differences within a genus are not common), (b) reproducible differences stemming from different experimental conditions (flow-through test at 20degrees C versus renewal test at 10 degrees C), or (c) non-reproducible experimental variation.

The Aquatic Life Guidelines (the procedures EPA uses to derive criteria) discuss the situation where there are large differences among species in a genus. The Guidelines caution against taking a geometric mean of SMAVs when the values differ by more than a factor of 10, but do not precisely indicate what should be done in such cases. Generally, for other criteria included in the rule, when the SMAVs differed by more than a factor of 5, the GMAV was set equal to the lowest SMAV. When that is done for *Cancer*, the GMAV remains at 4.893 ug/L. The CMC and CCC thus remain unchanged from the proposed rule, both having the value of 1.0 ug/L.

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Comment ID: CTR-092-012b

Comment Author: City of San Jose, California

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-07b Cyanide Aquatic Life

References: Letter CTR-092 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES C-03b

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Comment: Validity Of Proposed Nickel And Cyanide Criteria On A Statewide Basis

Attachment 1 to this letter is a technical report entitled "Task Report 1: Update and Recalculation of the Freshwater and Saltwater Cyanide Criteria", dated November 5, 1996 and prepared by Tetra Tech, Inc. for the City of San Jose. Attachment 2 to this letter is a technical report entitled "Final Report Recalculation of the Nickel Criteria for South San Francisco Bay", dated November 1, 1995 and prepared

by Tetra Tech, Inc. for the City of San Jose. All of the attachments to this letter are incorporated as part of our comments and are being submitted for inclusion in the record for this rulemaking.

EPA has an obligation to consider the most current, scientifically defensible data in this rulemaking. EPA's obligations in this regard are particularly significant in light of its obligations under Executive Order 12866 and the Regulatory Flexibility Act (5 U.S.C.A. 601 et seq.) to consider a full range of cost effective alternatives to promulgation of the proposed Rule.

Although the title of Attachments 1 and 2 suggest that the data submitted relates only to San Francisco Bay, the data in fact relates to the entire state of California, and indicates that less stringent cyanide and nickel criteria than are proposed by the Rule would adequately protect water quality in California. Under the Executive Order 12866 and the Regulatory Flexibility Act, EPA should include consideration of the these less stringent criteria in its Economic Analysis.

Response to: CTR-092-012b

EPA does not agree that the nickel and cyanide site-specific criteria developed for South San Francisco Bay necessarily apply to the entire State of California. EPA has examined the two reports ("Final Report: Recalculation of the Nickel Criteria for South San Francisco Bay" and "Update and Recalculation of the Freshwater and Saltwater Cyanide Criteria") referenced in the comment, and could not find evidence that the analysis contained therein applies to or was intended to apply to the entire state. EPA is not claiming that it has evidence that the San Francisco Bay analysis is not valid in other parts of the state. However, because the comment provided no information to support its assertion that the cited data relate to the entire state, and because EPA has no information of its own to determine the occurrence of species in the state, EPA is not able to conclude that the South Bay analysis applies state wide. To adjust the nickel and cyanide criteria statewide, EPA would need a statewide analysis of the type done for South San Francisco Bay. These site-specific studies must first be reviewed and approved by State authorities; they may then come to approval. If approved, EPA would rescind the criteria for nickel and/or cyanide in the CTR for the South San Francisco Bay.

With respect to the commenter's suggestion that these studies should be considered in any costing analysis for the CTR under Executive Order (E.O.)12866 and the Regulatory Flexibility Act, EPA does not agree. EPA has made clear elsewhere in the record of the rule that these criteria are health-based and are not based on cost-benefit balancing. The E.O. 12866 is supplemental information that shows the indirect costs and benefits of CTR criteria; it is an indication of the magnitude of the costs and benefits of the resulting water quality standards implemented through the NPDES permit program. With respect to the RFA, EPA addresses this issue in the preamble to the final rule and elsewhere in the final record for the final rule.

[The remaining parts of the response were written by Region 9 and are not shown here because I do not have an electronic version of them. All issues with that portion of the response deal with regional matters outside the purview of the national program.]

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Subject Matter Code: C-08a Arsenic Human Health

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Comment ID: CTR-020-007

Comment Author: City of Stockton

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-08a Arsenic Human Health

References:

Attachments? Y

**CROSS REFERENCES**

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Comment: II. Use of New Scientific Information The City acknowledges and supports EPA's update of several water quality criteria including those for mercury, cadmium and arsenic. While a number of criteria were updated to reflect current scientific information, there are a few notable exceptions. The following briefly addresses the key updates and omissions that should be addressed in the final publication of this rule.

### 3. Arsenic

Arsenic human health criteria have been deleted as not being based on reliable scientific information. (This action followed a petition for rulemaking to amend the NTR for Alaska.) In the preamble, EPA tries to promote use of a 5 ppb human health criteria which was never adopted by the state. The number routinely approved by the Agency for other states is 50 ppb. Based upon the Agency's recent discussion of the current scientific information regarding arsenic addressed in the modification of the National Toxics Rule for Alaska (62 Fed. Reg. 27707-27710), EPA should clarify that the 50 ppb drinking water objective is acceptable to meet all Clean Water Act requirements.

Response to: CTR-020-007

In the final rule, EPA is not promulgating human health criteria for arsenic. As stated in the preamble, EPA made the decision not to promulgate human health criteria in light of number of issues and uncertainties that have arisen concerning the effects of arsenic on human health. A discussion of these issues are contained in a document entitled "Issues Related to Health Risk of Arsenic" that is contained in the administrative record for this rule. EPA is currently completing a review of the risk assessment for arsenic in an effort to resolve these concerns.

Although the State did not adopt a human health criterion for arsenic, California has previously expressed its scientific and policy position by recommending the use of 5 ppb in providing human health protection. This value has been utilized by the State in implementing its narrative criteria. EPA expects that the State will continue to implement its narrative criteria to ensure that protections are in place for arsenic.

As the commenter noted, many states have adopted human health criteria for arsenic based on the maximum contaminant levels (MCL) under the Safe Drinking Water Act. In addition, many States have arsenic criteria in place that are based on EPA's existing Section 304(a) criteria guidance. As stated in EPA's December 12, 1988 guidance to states on complying with CWA Section 303(c)(2)(B) and in the Agency's policy on the use of Section 304(a) criteria and MCLs (published at 45 FR 79320, November

28, 1980), EPA encourages the use of MCLs for the protection of public water supplies. However, where fish consumption is an important activity in a waterbody, EPA recommends the use of the Section 304(a) criteria. EPA does not believe that any further clarification is needed.

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Comment ID: CTR-030-003

Comment Author: Utility Water Act Group

Document Type: Trade Org./Assoc.

State of Origin: DC

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-08a Arsenic Human Health

References:

Attachments? Y

CROSS REFERENCES

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Comment: C. EPA is Correct to Delay Promulgation of Human Health Criteria for Arsenic

Given the numerous uncertainties involved in developing scientifically defensible human health criteria for arsenic, UWAG supports EPA's decision to delay promulgation of such criteria in the California water quality standards. As noted in the preamble, those uncertainties include: (1) arsenic exposure evaluations, (2) metabolism and detoxification processes, (3) analytical methods, and (4) effects at low doses. 62 Fed.Reg. at 42,179, col. 1. EPA has prudently decided to await resolution of these uncertainties before promulgating additional arsenic human health criteria.

Response to: CTR-030-003

EPA acknowledges the numerous comments that support the Agency's decision not to promulgate human health criteria for arsenic in today's rule.

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Comment ID: CTR-035-002c

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-08a Arsenic Human Health

References:

Attachments? N

CROSS REFERENCES C-22

C-01a

G-05

G-04

G-09

K-01

C-24a

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Comment: Second, we commend EPA for its inclusion in the CTR of several innovative and flexible

regulatory approaches, such as metals criteria expressed as dissolved rather than total recoverable concentrations, and the revised human health criterion for mercury. In addition, in light of the issues surrounding the human health criteria for arsenic we support EPA's decision not to promulgate human health criteria at this time. With respect to implementation issues discussed in the Preamble, we support EPA's policies and guidance regarding the application of mixing zones and dilution credits. the use of interim permit limits while Total Maximum Daily Loads (TMDLs) and other special studies are being performed, and EPA's guidance to Regional Water Quality Control Boards (RWQCBs) that they may use any of the methods described in EPA's guidance document on the use of translators. We also support EPA's proposal to create a rebuttable presumption for Water Effects Ratios (WERs), allowing the RWQCBs and SWRCB to develop site-specific WERs that can be approved by EPA during the NPDES permit approval process. We believe that this approach will help facilitate the development of appropriate site-specific adjustments for metals criteria.

Response to: CTR-035-002c

See response to CTR-030-003.

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Comment ID: CTR-035-025

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-08a Arsenic Human Health

References:

Attachments? N

CROSS REFERENCES

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Comment: p. 42179 - Arsenic Human Health Criteria We support EPA's decision not to promulgate human health criteria for arsenic at this time. However, in light of the scientific uncertainties identified by EPA, we strongly recommend that EPA remove from the Preamble the recommendation that State permitting authorities use 5 ug/l in evaluating and interpreting the narrative water quality criteria, since EPA's own scientific judgment is that there is an insufficient basis for setting valid human health criteria at this time. Instead, as an interim measure, EPA should recommend that the maximum contaminant level (MCL) for arsenic of 50 ug/l be used by permit writers, as has been approved as the human health criterion for the State of Alaska.

Response to: CTR-035-025

See response to CTR-030-003 and CTR-020-007.

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Comment ID: CTR-041-005

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-08a Arsenic Human Health

References:

Attachments? N

CROSS REFERENCES

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Comment: Fourth, for arsenic, the District strongly supports EPA's recognition that human health criteria should not be proposed at this time. The District is aware of the confusion in issues and the uncertainties that have developed concerning the measurement of the health effects of arsenic, and consequently the District supports the Agency's review of risk assessments for arsenic before promulgating criteria in any more states. In light of this reasoning, the District recommends that EPA withdraw its final sentence in this discussion recommending that permitting authorities in California refer to the State's criterion level of 5 ug/l in interpreting and evaluating narrative water quality criteria.

Response to: CTR-041-005

See response to CTR-030-003 and CTR-020-007.

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Comment ID: CTR-045-007

Comment Author: Sausalito-Marín Sanitary Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-08a Arsenic Human Health

References:

Attachments? Y

CROSS REFERENCES

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Comment: The District supports many of the items included in the proposed CTR:

EPA's decision not to promulgate human health criteria at this time in light of the issues surrounding human health criteria for arsenic.

Response to: CTR-045-007

See response to CTR-030-003.

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Comment ID: CTR-056-004

Comment Author: East Bay Municipal Util. Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: C-08a Arsenic Human Health

References: Letter CTR-056 incorporates by reference letter CTR-054

Attachments? N

## CROSS REFERENCES

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Comment: Second, EBMUD would like to express to EPA its support for inclusion of:

\* The decision NOT to promulgate human health criteria at this time for arsenic in light of uncertainty surrounding the human health effects of this element,

Response to: CTR-056-004

See response to CTR-030-003.

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Comment ID: CTR-059-007

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-08a Arsenic Human Health

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

## CROSS REFERENCES

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Comment: Arsenic Human Health Criteria

We support EPA's decision not to promulgate human health criteria for arsenic at this time in light of the scientific uncertainties regarding the risks posed by arsenic in water. EPA currently has two different human health values for arsenic in water: 0.018 ug/L for the ambient water criterion and 50 ug/L for the drinking water maximum contaminant level (MCL). In its own decision document for arsenic(\*2), EPA states that "Having two very different criteria for arsenic (0.018 ug/L ambient water v 50 ug/L in drinking water) to protect human health drinking water exposures is very confusing to the public. These different values have been difficult to explain, defend, and implement in EPA and State Programs." Based on this discussion, we strongly recommend that EPA remove from the Preamble the recommendation that State permitting authorities use 5 ug/l in evaluating and interpreting the narrative water quality criteria. Instead, as an interim measure, EPA should recommend that the MCL for arsenic of 50 ug/l be used by permit writers, as has been approved by EPA as the human health criterion for the State of Alaska.(\*3)

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(\*2) U.S. Environmental Protection Agency, Decision Document for Arsenic. I.A.9.c Issues Related to Health Risk of Arsenic (no date).

(\*3) 62 Federal Register 27707-27710 (May 21, 1997).

Response to: CTR-059-007

See response to CTR-030-003 and CTR-020-007.

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Comment ID: CTR-060-004  
Comment Author: San Diego Gas and Electric  
Document Type: Electric Utility  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-08a Arsenic Human Health  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: PROVISIONS SDG&E SUPPORTS

EPA has included in the proposed CTR provisions which are reasonable and with which SDG&E supports. These include:

Delay of arsenic human health criteria

The preamble states that EPA has decided to not propose human health criteria for arsenic in this rule due to a number of issues and uncertainties concerning the health effects of arsenic (see 62 Fed. Reg. at 42179, Col. 1). SDG&E supports this decision because it is important to base criteria upon sound science. Adoption of the criteria should be delayed until the referenced issues and uncertainties are resolved.

Response to: CTR-060-004

See response to CTR-030-003.

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Comment ID: CTR-066-009  
Comment Author: Delta Diablo Sanitation Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-08a Arsenic Human Health  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: Our preliminary review of the CTR finds several areas that we believe are positive changes and will enhance the rulemaking. The areas that we support as now written are as follows:

\* The decision not to promulgate human health criteria at this time in light of the issues surrounding the human health criteria for arsenic.

Response to: CTR-066-009

See response to CTR-030-003.

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Comment ID: CTR-081-002g  
Comment Author: West County Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-08a Arsenic Human Health  
References:  
Attachments? N  
CROSS REFERENCES G-04  
C-24a  
G-02  
C-22  
G-09  
C-01a  
G-05

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Comment: \* There are many aspects of the CTR that we support. These include: a) Application of interim limits while special studies are performed. b) Approach to water effect ratios for determining site specific criteria. c) Inclusion of provision for compliance schedules. However, this should be modified to allow inclusion of compliance schedules of up to 15 years in permits if deemed appropriate by Regional Boards. d) Metals criteria expressed as dissolved rather than total recoverable concentrations. e) EPA's guidance to Regional Boards regarding use of translators. f) EPA's proposal to create a rebuttal presumption for Water Effects Ratios, g) Revised human health criteria for mercury h) Decision to not promulgate human health criteria at this time in light of issues surrounding health criteria for arsenic. i) EPA's policies regarding application of mixing zones and dilution credits.

Response to: CTR-081-002g

See cross references in categories C-24a, G-02, C-22, G-09, C-01a, G-05.

See response to CTR-030-003.

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Comment ID: CTR-085-010  
Comment Author: Camarillo Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-08a Arsenic Human Health  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: On several aspects of the California Toxics Rule, the District is in agreement with CASA and SCAP comments:

\* The EPA's decision not to promulgate human health criteria at this time in light of the issues surrounding the human health criteria for arsenic.

Response to: CTR-085-010

See response to CTR-030-003.

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Comment ID: CTR-089-001c

Comment Author: Las Virgenes Mncpl Water Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-08a Arsenic Human Health

References:

Attachments? N

CROSS REFERENCES C-22

C-01a

G-05

K-01

G-02

G-09

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Comment: The draft California Toxics Rule (CTR) is clearly the product of substantial effort by USEPA staff, and we applaud this effort and its intent. On several issues of concern to public utilities, the CTR strikes a good balance between the need to promulgate standards and the need to base those standards on sound science. Examples include the use of dissolved concentrations rather than the total recoverable concentrations for metals, the deferral of human health criteria for arsenic until adequate information is available, and the revision of the human health criterion for mercury. We are also pleased with the CTR's guidance and flexibility, on mixing zones and dilution credits, total maximum daily loads (TMDLs), compliance schedules, and translators.

Response to: CTR-089-001c

See cross references in categories C-01a, G-05, K-01.

See response to CTR-030-003.

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Subject Matter Code: C-09a Dioxin Human Health

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Comment ID: CTR-002-006

Comment Author: Comm. for a Better Environment

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-09a Dioxin Human Health

References:

Attachments? Y

CROSS REFERENCES

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Comment: EPA unscientifically rejects criteria for 16 dioxin-like chemicals that impair San Francisco Bay. The 16 dioxin compounds that are not controlled by EPA's proposed criteria cause 80% of dioxin-like toxicity in San Francisco Bay fish tests supporting the human health advisory noted above. (\*20) Subtracting all 2,3,7,8-TCDD toxicity does not change these dioxin-like toxicity estimates enough to reverse the conclusions which support this advisory. (\*20) (\*16) Thus, these 16 compounds impair fishing uses in San Francisco Bay. A criterion which includes the 16 dioxins developed by the state was approved in EPA's prior technical review, and the discussion in EPA's proposal shows that EPA still believes this criterion is scientifically defensible. Therefore, EPA's rejection of a criterion it believes is scientifically sound renders EPA's refusal to include criteria needed to protect San Francisco Bay fishing from these 16 dioxin-like chemicals without any valid scientific support.

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(\*16) California Regional Water Quality Control Board, San Francisco Bay Region, 1995. Contaminant levels in fish tissue from San Francisco Bay. Final draft report. Excerpt including data from toxic pollutant analyses of fish tissue samples from S.F. Bay. December, 1994.

(\*20) Comparison of dioxin-like toxicity equivalents in San Francisco Bay fish tissue: 2,3,7,8-TCDD v. seventeen 2,3,7,8-substituted dioxins and furans. Table using data from Attachment 16, and analysis by CBE.

Response to: CTR-002-006

A commenter suggests that the Agency not include dioxin (2,3,7,8-TCDD) in this rule, pending completion of its ongoing reassessment of risks associated with exposure to dioxin and related compounds. In a contrary view, other commenters suggest that the Agency promulgate criteria not only for dioxin, but for related compounds--to include toxicity equivalent factors (TEFs) for-- polychlorinated dibenzo-p-dioxins, polychlorinated dibenzofurans and co-planar polychlorinated biphenyls (PCBs). TEFs evaluate these related compounds as equivalent concentrations of 2,3,7,8-TCDD and are used as a method for capturing the total dose associated with environmental exposure to mixtures of dioxin and dioxin-like compounds.

In response to the first comment, EPA disagrees. EPA still views dioxin as an extremely serious health threat and, therefore, does not wish to delay further establishment of an ambient water quality criterion for California subject to this rule.

In order to base its regulatory decisions on the best available science, EPA periodically updates its

scientific assessment of the risk associated with exposure to environmental toxicants. In September of 1991 EPA's Office of Research and Development (ORD) began such a reassessment on the toxicology and exposure science of dioxin and related compounds. The scope of this reassessment effort has been much broader than previous dioxin assessments. Included in the dioxin reassessment effort are the identification and characterization of: dioxin sources; dioxin environmental fate and transport; pathways of human exposure; levels of and trends in human exposure; full assessment of cancer, and non-cancer toxic effects; development of quantitative dose response relationships for all the effects; and the characterization of risks posed by dioxin exposure. Once completed after a final, upcoming peer review, the reassessment will serve as the principal scientific and technical basis for EPA's future dioxin risk management policies and programs.

When the reassessment began, the Administrator of EPA directed that Agency actions move forward without change in substance or timing until the reassessment is completed (Memorandum of William K. Reilly, September 11, 1991 "Dioxin Regulatory Program"). This direction has not changed. EPA continues to rely upon its 1985 assessment and the cancer slope factor it describes as the technical basis for policy and regulation; this is the assessment of dioxin in place as of September 11, 1991.

Consistent with this direction, EPA knows of no compelling reason not to include dioxin in the rule at this time. Instead, EPA believes it is an appropriate public health step to apply the current dioxin criteria in this rule and consider the merits of revising the criterion applicable in this rule (and to all other states covered by the National Toxic Rule) once the entire dioxin reassessment is complete and EPA revises its dioxin criteria. In the National Toxics Rule, EPA noted that a number of factors (as discussed below) may change but that the resulting criterion might remain the same. These concerns were reflected in EPA's response to comments in the National Toxics Rule. "It is too early in the process of scientific reassessment to support major changes in either the substance or timing of regulatory decisions related to dioxin." 57 Fed. Reg. 60884. EPA notes further that this approach, with respect to the National Toxics Rule, was upheld by the U.S. District Court for the District of Columbia in *American Forest & Paper Assn, Inc. v. U.S. Environmental Protection Agency*, No. 93-cv-0694 slip op. at 14-16 (D. D.C. 1996); 1996 U.S. Dist. LEXIS 13230. Based on information currently available to the Agency, the dioxin limit promulgated today for 2,3,7,8- tetraclorodibenzo[p]dioxin remains in the range of scientific defensibility.

EPA has provided a leadership role in the adoption and application of TEFs and is generally supportive of their use for risk assessment and risk management. However, the expansion of water quality criteria to include the full range of dioxin-like compounds is only one of many issues that needs to be addressed in revising water quality criteria. From an EPA perspective, the public is best served by having all these factors considered simultaneously. For this full review of the dioxin Water Quality Criteria to be well founded in science, it needs the benefit of a completed, peer reviewed, reassessment. Reexamining the cancer slope factor for 2,3,7,8- tetraclorodibenzo[p]dioxin and TEFs are among many issues important to future water quality criteria, but are not the only issues. The reassessment also includes coverage of reproductive, developmental, neurotoxic and other effects as well as fundamental questions as to the mode of action by which dioxin causes all of its effects. These will be considered in a thorough revision of water quality criteria. Interim adjustments based on only some parts of the toxicology or quantitative assessment would not support coherence in the scientific work or policy development that underlie Agency action. There are a number of outstanding issues that could result in modification of the water quality criteria, including: expanding the criteria to all dioxin-like compounds; adopting a new cancer slope factor; considering non-cancer effects as well as cancer effects; taking into account background levels and exposure; adjusting fish consumption patterns; adjusting bioconcentration and bioavailability factors; and adopting new TEF values. Some of these factors could lead to strengthening the water quality criteria while others might support relaxation. It is presently unknown what the net effect of all these factors may have on revised dioxin criteria. EPA continues to believe that waiting for the final

peer review reassessment to be completed so that all of these issues can be addressed simultaneously, is preferable to a sequence of incremental revision to the criteria based on only a few of these concerns. Thus, until EPA completes this reassessment, when EPA promulgates water quality criteria for a State, EPA will not use this approach.

For the reasons discussed above, the Agency is promulgating an ambient water quality standard only for 2,3,7,8-TCDD. This action is consistent with Section 303(c)(2)(B) and the National Toxics Rule (57 Federal Register 60863-60864, December 22, 1992) based on EPA's 1984 Ambient Water Quality Criteria Document for Dioxin. California, however, may adopt criteria for other related compounds.

See also response to CTR-002-003 (Category C-24; Site-Specific Criteria).

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Comment ID: CTR-016-008

Comment Author: San Francisco Bay RWQCB

Document Type: State Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-09a Dioxin Human Health

References:

Attachments? Y

CROSS REFERENCES

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Comment: Comments on the Proposed Dioxin Criteria

In the preamble, EPA states its support for California's use of Toxicity Equivalents (TEQ) in setting NPDES permit limits, yet proposes standards for only one type of dioxin. We have found that appropriate water quality protection requires consideration of all congeners because it is only through congener "fingerprints" that distinctions can be made between atmospheric deposition and wastewater sources. Most dioxins and furans are released to the environment through air emissions. In addition, EPA should also provide guidance for determining permit compliance for discharges dominated by higher chlorinated congeners given the slim data base that established the equivalent factors for these higher chlorinated congeners. Below are the reasons for these recommendations.

EPA is proposing standards for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (TCDD) that are consistent with the NTR and that are based on the 1984 criteria. The TEQ concept uses toxicity equivalency factors (TEF) to convert mixtures of polychlorinated dibenzo-p-dioxins and dibenzofurans (PCDD/PCDF) to equivalent concentrations of 2,3,7,8-TCDD.

EPA states in the preamble:

"...The concept of TEQ and the use of the I-TEFs/89, as outlined in EPA's 1989 Interim Procedures, provided valuable guidance in using the 2,3,7,8-TCDD water quality criteria in setting National Pollutant Discharge Elimination System (NPDES) water quality-based permit limits that are protective of human health for dioxin and dioxin-like compounds."

Discharge data from our region, which we have shared with EPA, show that applying this statement strictly would raise significant permit compliance issues for many wastewater point sources. Guidance

on an implementation strategy for dioxin is needed. We believe it is appropriate for EPA to provide this guidance because they have a broad multimedia understanding of the current state of knowledge about the major sources and fate of PCDD/PCDF.

Based on an extensive review of local and international scientific data, we have found that the major sources of dioxins to the environment are from emissions to air. However, the ultimate sink for PCDD/PCDF is the aquatic sediment. As a result, aquatic indicators such as fish tissue may show a problem regardless of the significance or insignificance of current wastewater point sources in that area.

In the San Francisco Bay area, we find that most of the PCDD/PCDF enters surface waters from storm water runoff. Another significant portion may come from direct deposition of PCDD/PCDF onto the bay surface from the ambient air. The sources to storm water are most likely from emissions to air and reservoir sources.

Considering this, control of the air emissions sources rather than controls through the NPDES permit program would appear to us to have the most impact on water quality. Of course, in certain areas where there is a significant point source such as paper and pulp mills, it may be prudent to control that source because of potential impacts on the local area.

In any case, because of the significance of air emission sources, EPA should provide an implementation strategy for regulating PCDD/PCDF using the TEQ approach.

On the issue of uncertainty of TEFs, we believe that, as part of the California Toxic Rule, EPA should provide guidance for determining permit compliance on samples dominated by hepta- and octa-CDDs and CDFs. We believe this is necessary because of the uncertainty of the TEF values for these congeners, and because of the dominance of these congeners in many of the discharge samples in our region.

According to EPA's 1989 Interim Procedures document, the data base for the TEFs for hepta- and octa-CDDs and CDFs are very slim. For octa-CDD and CDF specifically, EPA acknowledged in the document that the TEFs reflect the results of a single experiment. Permit violations triggered by TEFs that are based on a very slim data base concerns us. This concern is compounded by the fact that discharge and storm water sample data from our region show hepta- and octa-CDDs and CDFs account for 20 to 100% of the total TEQ of the samples.

Response to: CTR-016-008

See response to CTR-002-006.

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Comment ID: CTR-035-024  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-09a Dioxin Human Health  
References:  
Attachments? N

## CROSS REFERENCES

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Comment: p. 42178 -- 2,3,7,8-TCDD (Dioxin) Criteria We recommend that EPA not adopt criteria for dioxin at this time for the following reasons. First, we recommend that EPA is still completing the dioxin reassessment, and, similar to EPA's decision regarding the human health criteria for arsenic, we believe that EPA should defer adoption of the criteria at this time. Second, as pointed out elsewhere in these comments, we believe that there are fundamental problems in EPA's adopting criteria that are below detection limits and for which compliance costs cannot be properly determined. Third, use of dioxin has been banned, and therefore traditional control methods are unlikely to succeed in achieving meaningful reductions in dioxin levels in the ambient environment. Therefore, we urge EPA and the State to instead focus watershed management efforts on developing strategies for addressing dioxin issues (where dioxin is demonstrated to be causing water quality use impairment).

Response to: CTR-035-024

See response to CTR-002-006.

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Comment ID: CTR-039-006

Comment Author: San Francisco BayKeeper

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-09a Dioxin Human Health

References:

Attachments? N

CROSS REFERENCES

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**Comment: IV. EPA MUST LOWER THE PROPOSED 2,3,7,8 TCDD DIOXIN NUMBER IN ORDER TO ACCOUNT FOR THE ADDITIVE TOXICITY OF 16 OTHER DIOXIN CONGENERS**

BayKeeper believes that the only appropriate water quality standard for dioxin is zero. That being said, the State of California's 1991 criteria for dioxin included all 17 dioxin compounds. EPA's rule purposes to establish a criteria for only one of those congeners - 2,3,7,8-TCDD. The State's 1991 rule applied toxicity equivalency factors ("TEFs") promoted but not promulgated by EPA in the proposed rule. The toxicity equivalency concept takes into account the additive toxicity of the congeners on each other and, as EPA appears to acknowledge, more likely protects human health for dioxin and dioxin-like compounds. Unfortunately, EPA once again defers to a non-existent state process to fill in the regulatory gap for the other 16 dioxin compounds. As is clear from the State of California's recently proposed implementation plan for EPA's proposed criteria, the State is not proposing to take EPA up on its offer to make the dioxin criteria truly protective by applying TEFs after the fact. Assuming that EPA insists on attempting to protect people from dioxin by only regulating one of the congeners, at a minimum, in order to account for the toxicity of 2,3,1,8-TCDD where a mixture of dioxins is present, EPA should reduce the proposed criteria of .014 pg/L to .0014 pg/L to account for additional toxicity resulting from the presence of other dioxins and consistent with the State's prior technical decision on dioxin.

Response to: CTR-039-006

See response to CTR-002-006.

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Comment ID: CTR-053-003c

Comment Author: Heal the Bay

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-09a Dioxin Human Health

References: Letter CTR-053 incorporates by reference letter 6 and the comments on Dioxin, copper, and the compliance schedule from letter CTR-002

Attachments? N

CROSS REFERENCES C-01b

C-02b

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Comment: In spite of our lack of detailed comments for specific criteria, we have concerns regarding any weakening of California's previously developed standards, particularly those for mercury and copper. Also, we question the absence of criteria for dioxin and dioxin-like compounds. In order to ensure these issues are considered in future improvements of the Rule, we incorporate by reference the comments of the Natural Resources Defense Council regarding mercury, and the comments of Communities for a Better Environment ("CBE") regarding dioxin compounds and copper.

Response to: CTR-053-003c

See response to CTR-002-006.

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Comment ID: CTR-058-012

Comment Author: Western States Petroleum Assoc

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-09a Dioxin Human Health

References:

Attachments? Y

CROSS REFERENCES

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Comment: 2,3,7,8-TCDD ("dioxin"). EPA has proposed a criterion for 2,3,7,8-TCDD ("dioxin") and is encouraging the state to implement the TEQ approach in implementing this criterion. WSPA does not agree with the TEQ approach entirely and strongly urges EPA and the state to wait until EPA and EPA's Science Advisory Board complete the re-evaluation of the health risk assessment of dioxin and its congeners. EPA may find that some congeners, especially the more highly substituted congeners which seem to be ubiquitous in the environment, are not as toxic as originally perceived. Until EPA's studies are complete, EPA and the state should regulate 2,3,7,8-TCDD based on the criteria set by EPA for this compound in the proposed rule.

Response to: CTR-058-012

See response to CTR-002-006.

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Comment ID: CTR-095-003  
Comment Author: M. Ruth Uiswander  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/02/97  
Subject Matter Code: C-09a Dioxin Human Health  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Dioxin is only regulated in one compound. Ca. used to have standards for all 17 dioxin compounds. The proposed new standard for only one Dioxin compounded is .014 parts per billion. It should be at least .0014 ppb; OR BETTER: ZERO!

Response to: CTR-095-003

See response to CTR-002-006.

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Comment ID: CTR-097-003  
Comment Author: Mark Shaw  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/03/97  
Subject Matter Code: C-09a Dioxin Human Health  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: In addition the proposed standards apply to only one dioxin compound, and that proposed standard is 0.014 parts per billion. A more appropriate standard for dioxin - ALL dioxin compounds- is zero parts per billion.

Response to: CTR-097-003

See response to CTR-002-006.

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Comment ID: CTR-104-004a  
Comment Author: Lucy Nelson, et. al.  
Document Type: Citizen  
State of Origin: CA

Represented Org:  
Document Date: 10/15/97  
Subject Matter Code: C-09a Dioxin Human Health  
References:  
Attachments? N  
CROSS REFERENCES C-17a

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Comment: Increasing the limits on toxins means that we postpone the goals of the Clean Water Act to make U.S. water "fishable and swimmable". Any progress made will not be expanded toward making our waters cleaner and mediocre programs will be introduced which do not improve the condition of our state's water quality. More protective standards must be created which will consider all 17 toxic pollutants of concern.

Response to: CTR-104-004a

See response to CTR-002-006.

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Comment ID: CTR-106-004a  
Comment Author: Robert Brown  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/28/97  
Subject Matter Code: C-09a Dioxin Human Health  
References:  
Attachments? N  
CROSS REFERENCES C-17a

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Comment: Increasing the limits on toxins means that we postpone the goals of the Clean Water Act to make U.S. water "fishable and swimmable". Any progress made will not be expanded toward making our waters cleaner and mediocre programs will be introduced which do not improve the condition of our state's water quality. More protective standards must be created which will consider all 17 toxic pollutants of concern.

Response to: CTR-106-004a

See response to CTR-002-006.

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Comment ID: CTR-109-003  
Comment Author: Maggie Miller  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 12/01/97  
Subject Matter Code: C-09a Dioxin Human Health  
References:

Attachments? N

**CROSS REFERENCES**

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Comment: Third, California used to have standards for all 17 dioxin compounds. The proposed new standard applies only to one, and that proposed standard is severely inadequate.

Response to: CTR-109-003

See response to CTR-002-006.

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Comment ID: CTR-110-002

Comment Author: Judith A. Brown

Document Type: Citizen

State of Origin: CA

Represented Org:

Document Date: 12/02/97

Subject Matter Code: C-09a Dioxin Human Health

References:

Attachments? N

**CROSS REFERENCES**

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Comment: Please consider standards for all seventeen dioxin compounds, not just one.

Response to: CTR-110-002

See response to CTR-002-006.

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Comment ID: CTRH-001-012

Comment Author: Greg Karras

Document Type: Public Hearing

State of Origin: CA

Represented Org: Comm. for Better Environ.

Document Date: 09/17/97

Subject Matter Code: C-09a Dioxin Human Health

References:

Attachments? N

**CROSS REFERENCES**

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Comment: On dioxin, despite proof that there are 17 dioxin compounds which harm the fishing public, EPA proposes a standard for only one of these compounds. EPA then says that it encourages the state to use the states previous scientifically correct standards for all 17 dioxins, instead of using the one EPA proposes, which deregulates 16 of the 17 most toxic chemicals known to science.

Our question here is, why does EPA think the state will have the courage to do the right thing about dioxin if EPA doesn't?

Response to: CTRH-001-012

See response to CTR-002-006.

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Comment ID: CTRH-001-051

Comment Author: Michael Lozeau

Document Type: Public Hearing

State of Origin: CA

Represented Org: S.F. Bay/Delta Keeper

Document Date: 09/17/97

Subject Matter Code: C-09a Dioxin Human Health

References:

Attachments? N

CROSS REFERENCES

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Comment: The toxicity equivalents notion is sort of held up as a good idea, and all states should go about doing that. It seems to me a simple step to say that the state has to do it. Just make those other 16 congeners --

And, of course, Baykeeper has signed on and there are a number of groups in the Bay Area that have signed on to the statewide notion of a zero dioxin standard anywhere possible. And I think that would be certainly the most practical place to put a zero discharge standard, would be in the standards themselves.

And to the extent there's other issues related to the particular permits, then we would obviously raise those at the time the permits came up. So we would propose a zero number for dioxin and all the congeners at this point.

Response to: CTRH-001-051

See response to CTR-002-006.

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Subject Matter Code: C-10b PCBs Aquatic Life

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Comment ID: CTR-037-010

Comment Author: Hampton Roads Sanitation Dist.

Document Type: Sewer Authority

State of Origin: VA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-10b PCBs Aquatic Life

References:

Attachments? N

**CROSS REFERENCES**

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Comment: 10. EPA has modified the PCB criteria from an approach where each aroclor has its own criteria to one where a single criterion applies to the sum of all aroclors. However, the new criterion does not represent the sum of the criteria for the aroclors. This, in effect, results in a much more stringent PCB criterion because an effluent previously could discharge several aroclors at concentrations which were not detrimental to biota but now those same concentrations add up to a sum which is greater than the new criterion. The 1995 Update document does not address why this change is made, and justification could not be located in the proposed rule. Such changes must be technically and scientifically defensible and necessary to protect and support designated uses. EPA should provide data and logic supporting the new approach and illustrate why it is now necessary to protect aquatic organisms.

Response to: CTR-037-010

The Agency agrees that the presentation of the aquatic life criteria for polychlorinated biphenyls (PCB) in the criteria matrix for this proposal differ from that in the NTR as amended; for this final rule, aquatic life criteria are expressed as the sum of aroclors (1242, 1254, 1221, 1232, 1248, 1260 and 1016, CAS numbers 53469219, 11097691, 11104282, 11141165, 12672296, 11096825 and 12674112, respectively) while for the NTR, as amended, the criteria limits are expressed for each of seven different aroclors. The Agency agrees that a criterion based on the sum of several aroclors may be more stringent than a criterion where each of several individual aroclors has a concentration limit. For example, a criterion of 0.014 ug/L applying to the sum of seven aroclors is more stringent than each of seven aroclors having a concentration limit of 0.014 ug/L.

The Agency does not agree that justification for a criterion based on the sum of aroclors could not be located in the proposed rule. Page 42168 of the Preamble states: "The presentation of the polychlorinated biphenyls (PCB) criteria in the criteria matrix for this proposal differ from that in the NTR, as amended: for this proposal, the criteria are expressed as a total of all aroclors, while for the NTR, as amended, the criteria are expressed for each aroclor." The aquatic life criteria proposed in the CTR were based on the criteria contained in the 1980 criteria document entitled, Ambient Water Quality Criteria for Polychlorinated Biphenyls, (EPA 440/5-80-068, October 1980) which was included in the Record for the proposed rule. This criteria document explains the derivation of aquatic life criteria based on total PCBs. Therefore, a criteria based on the sum of aroclors is comparable with the aquatic life criteria presented in the 1980 criteria document.

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Subject Matter Code: C-11b PAHs Aquatic Life

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Comment ID: CTR-060-014

Comment Author: San Diego Gas and Electric

Document Type: Electric Utility

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-11b PAHs Aquatic Life

References:

Attachments? N

CROSS REFERENCES

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Comment: PROVISIONS SDG&E DOES NOT SUPPORT

As described in the following comments SDG&E does not support the following provisions:

PAHs criteria

EPA's proposed criteria for high molecular weight (HMW) carcinogenic PAHs (e.g., Benzo (a) Anthracene, Benzo (a) Pyrene, Benzo (b) Fluoranthene, Benzo (k) Fluoranthene, Chrysene, Dibenzo (a,h) Anthracene, Indeno (1,2,3-cd) Pyrene) used a number of assumptions which have made the resulting criteria overly conservative. Following is a discussion of these factors.

\* PAHs are highly hydrophobic molecules and consequently bind to available suspended organic matter. Currently accepted methods for measuring concentrations of PAHs in water neglect the binding of such hydrophobic compounds to suspended organic matter(\*1). The dissolved fraction (DOM) of this suspended material passes through a 0.45um filter and the organic extraction required for analysis of PAHs insures that both DOM-bound and free PAH will be reported. Since only the free PAH is bioavailable, this results in the proposed criteria being unnecessarily overprotective. The PAH criteria should account for the bio-availability of PAHs, as they do for the bio-availability of metals (e.g., dissolved criteria vs. total recoverable, translators, WERs).

\* The simple use of octanol-water partition coefficients or fugacity modeling show that these HMW PAHs are only vanishingly soluble in seawater and to reach the proposed criteria values would have to originate from a large well-mixed source. For instance, assuming the HMW PAHs has a log octanol/carbon partition coefficient (log Koc) of 5.0, the sediment source would have to be 4.9 ppm in order to be the source for the proposed water quality criterion of 0.049 ppb. While there may be sites where this level has been reported for total PAHs, the highest values for a single HMW PAH reported at a very contaminated site was 2.3 ppb of benzo(a)pyrene(\*2). Since the source of HMW PAHs in fish is unlikely to be the water column, the back-calculation of human health standards to water standards makes little sense.

\* The fish consumption rate of 6.5 g/day used is not representative of fish consumption within the State of California, and overestimates exposure. This value is reported by the EPA to represent an estimate of average consumption of fish and shellfish from estuarine and fresh waters by the U.S. population(\*3). The draft EPA Exposure Factors Handbook (\*4)(EFH) summarizes studies on the intake of fish and shellfish, and includes study results for Northern and Southern California from the National Marine Fisheries Service. While this data is compiled for fish from marine habitats, other data summarized in

Table 10-8 of the draft EFH suggests that the percentage of the population consuming and the mean daily fish intakes are higher for fish from marine habitats than for freshwater/estuarine habitats. The mean daily intake of marine finfish for anglers was 2.0 g/day for both Northern and Southern California, and the intake was 0.2 or 0.3 g/day on a per capita basis in the coastal population. The value of 2.0 g/day would be a more reasonable consumption rate and should be sufficiently health-protective of the more highly exposed sub-population of the state, because this intake is restricted to the angler population, which may reasonably be expected to consume their own catch and to represent a greater exposed population than the entire population of the state. The intake rate from this database is more up-to-date and is geographically representative. The criteria should be recalculated using the California fish intake rate.

\* The use of a single, deterministic value of the BCF for each chemical is a gross oversimplification, and is likely to overestimate exposure. Some of the issues that should be considered in the selection of BCF values to use in the analysis are listed below:

\* Most BCFs are reported for whole body samples, whereas the edible portion of the fish is typically only a fillet (muscle, skin, and adipose tissue). For example, in a study of the uptake and distribution benzo(a)pyrene in Northern Pike, less than 3% of the total accumulation of benzo(a)pyrene was located in the edible portion of the fish. The use of whole body BCFs in general overestimates the concentration of the chemical in the edible portion of the fish.(\*5)

\* BCFs have been shown to vary widely depending upon the fish species. Fish species with a higher content of lipids tend to bioconcentrate lipophilic substances to a greater degree than less oily, leaner fish from the same environment. In addition, fish species which lack or have a reduced capacity for metabolic elimination of a chemical tend to bioconcentrate chemicals to a greater degree. For example, the BCF for benzo(a)pyrene in snails is 82,000, while the BCF for benzo(a)pyrene in bluegill is 2,600.(\*6) Creel studies should be utilized to select fish species caught and consumed by recreational fishers in California, and the appropriate BCFs selected to represent the regional fish populations ingested.

\* Because of their low solubility and high affinity for organic carbon, PAHs in aquatic systems are primarily found sorbed to particles that are either settled to the bottom or are suspended in the water column.(\*7) The sediments can be major sinks for PAHs. The concept of estimating concentrations in fish from water concentrations and BCF factors neglects the potentially very significant contribution of uptake from sediments into benthic organisms and subsequent ingestion by higher trophic levels.

\* The presence of particulate organic material (POM) and dissolved organic material (DOM) may exhibit a significant effect on the BCF measured. For example, the BCF for benzo(a)pyrene in bluegills decreases from 2,600 to 220 in the presence of 20 mg/L DOM.(\*8) Because the amount of organic materials in the waterbody may vary depending upon the freshwater or estuarine habitat, the BCFs should reflect the organic material in the freshwater and estuarine water bodies in California.

\* Several studies by NOAA and others have shown that HMW PAHs do not bioaccumulate in fish tissue even under very polluted environmental conditions.(\*9) This is because they either pass through the gut unchanged.(\*10) or are extensively metabolized(\*11) and excreted.(\*12) Metabolism occurs in several tissues, but primarily in the liver and gut. Metabolism that occurs in the gut reduces the amount of PAH that is available for distribution within the fish flesh.

\* There is a wide range of published BCFs for HMW PAHs. This is because a number of different methods and assumptions were used to deduce these values. Most laboratory studies derived BCFs

during short-term exposures to environmentally irrelevant high concentrations of PAHs, while field studies assumed that the only source of PAHs was the water column. In short-term high level exposures, the fish does not reach equilibrium and metabolic capacities are overwhelmed. The inability of fish to clear these PAHs results in apparently high BCFS. However, as discussed above, high levels of HMW PAHs do not occur even at very polluted sites.

\* The use of BAF values in future evaluations is suggested in the proposed Water Quality Standards document. With regard to carcinogenic PAHs, extensive metabolism of the compounds by high-trophic-level consumers such as predatory fish has been demonstrated, therefore food chain biomagnification of these compounds does not appear to be significant, and the use of a BAF does not result in the conservatism that a BCF does.

\* The EPA uses the oral slope factor for benzo(a)pyrene as the toxicity criteria for the other carcinogenic PAHs. While it is our understanding that the EPA does not have a national standard for assigning cancer potencies to different PAHs, both the EPA Region IX(\*13) and the California EPA(\*14) have policies which result in the assignment of toxicity equivalence factors to the carcinogenic PAHs. In general, the other carcinogenic PAHs are less potent than benzo(a)pyrene (i.e. the toxicity equivalence factors are less than one). Because the proposed Water Quality Standards are specific to California, the toxicity criteria used in the derivation should at a minimum reflect either current California EPA or EPA Region IX policies.

\* The EPA should consider the use of probabilistic approaches to determine numeric water quality standards related to fish ingestion. The wide variability and relatively high uncertainty in the essential exposure parameters related to the intake rates, species of fish consumed, bioconcentration factors, and human sub-populations are ideally suited to a non-deterministic approach, and the expansion of studies which report distributional data should make a probabilistic approach feasible.

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(\*1) Readman, J.W., et al. 1982. Aquatic distribution and heterotrophic degradation of polycyclic aromatic hydrocarbons (PAH) in the Tamar Estuary. *Estuar. Coast. Shelf Sci.* 14: 369-389.

(\*2) Krahn, M.M. et al. 1986. Associations between metabolites of aromatic compounds in bile and the occurrence of hepatic lesions in English sole (*Parophrys vetulus*) from Puget Sound, Washington. *Arch. Env. Contam. Toxicol.* 15: 6167.

(\*3) U.S. EPA, 1989. Assessing Human Health Risks from Chemically Contaminated Fish and Shellfish. Office of Water Regulations and Standards. EPA-503/8-89-002.

(\*4) U.S. EPA, 1996. Exposure Factors Handbook. EPA/600/P-95/002Ba. Office of Research and Development.

(\*5) Balk, L.; Meijer, J.; DePierre, J.W.; Appelgren, L.E. 1984. *Toxicology and Applied Pharmacology*, 74, 430-449.

(\*6) ATSDR, 1997. Agency for Toxic Substances Disease Registry. Toxicological Profiles on CD-ROM. Lewis Publishers, Boca Raton, Florida.

(\*7) ATSDR, 1997. Agency for Toxic Substances Disease Registry. Toxicological Profiles on CD-ROM. Lewis Publishers, Boca Raton, Florida.

(\*8) ATSDR, 1997. Agency for Toxic Substances Disease Registry. Toxicological Profiles on CD-ROM. Lewis Publishers, Boca Raton, Florida.

(\*9) Krahn, M.M. et al. 1986. Associations between metabolites of aromatic compounds in bile and the occurrence of hepatic lesions in English sole (*Parophrys vetulus*) from Puget Sound, Washington. *Arch. Env. Contam. Toxicol.* 15: 6167.

(\*10) Niimi, A.J. and G.P Doorkhran. 1989. Dietary absorption efficiencies and elimination rates of polycyclic aromatic hydrocarbons (PAHS) in rainbow trout (*Salmo gairdneri*). *Env. Toxicol. Chem.* 8: 719-722.

(\*11) VanVeld, P.A. et al. 1988. Induction of monooxygenase activity in the intestine of spot (*Leiostomus xanthurus*), a marine teleost, by dietary aromatic hydrocarbons. *Drug Metab. Disposition* 16: 659-665; and Stegeman, J.J. 1978.

(\*12) Krahn, M.M. et al. 1992. Mass spectrometric analysis for aromatic compounds in bile of fish sampled after the Exxon Valdez oil spill. *Env. Sci. Technol.* 26: 116-126.

(\*13) U.S. EPA Region IX, 1993. Memo from Gerald Hiatt, Senior Risk Assessment Advisor at USEPA Region IX, to Richard Becker, Chief of Human and Ecological Risk at California EPA. Subject: EPA national and regional policies on assessment of cancer risks from exposure to mixtures of PAHs. May 25, 1993.

(\*14) California EPA, 1994. California Environmental Protection Agency Criteria for Carcinogens. November 1, 1994.

Response to: CTR-060-014

1. In response to the comment that EPA's proposed criteria for PAHs are overly conservative because they are not based on the freely dissolved fraction in water, EPA disagrees. While EPA agrees that the freely dissolved fraction of PAHs is the most bioavailable fraction for uptake by aquatic organisms, EPA believes that it would be premature to place in the final rule a criterion that is based on bioaccumulation factors normalized to the freely dissolved fraction because EPA has not yet completed peer review of its proposed national methodology for taking this approach. Until EPA completes the peer review of its national methodology for development of bioaccumulation factors, EPA believes it is most appropriate to base the criterion on the BCF, as is consistent with the NTR and EPA's current national recommended section 304(a) criteria. With respect to PAHs, EPA disagrees that its BCF of 30 necessarily results in an overly conservative criterion. Specifically, this BCF was derived from a study by Lu et al. (1977) and was measured in a model aquatic ecosystem environment containing multiple species at different trophic levels (e.g., algae, zooplankton, mosquito larvae, fish). Therefore, it is likely that some organic carbon was present in the study and that some sorption of the PAH compound (benzo-alpha-pyrene) onto dissolved and particulate carbon occurred thereby reducing the bioavailability of some portion of the PAH compound present. Further, since sufficient information is not presented in the Lu et al. study to estimate the freely dissolved fraction of the PAH compound, there is no basis for assuming that the bioavailability in the Lu et al. study was greater than waters in California generally.

EPA acknowledges that its revised national human health methodology would seek to develop water quality criteria for PAHs that are based on BAFs that consider the freely dissolved fraction in water (see 63 Fed. Reg. 43,756-43828; August 14, 1998, specifically pp. 43806-43823). However, this methodology has not been finalized and is currently undergoing external scientific peer review. EPA believes that

scientific peer review is essential to maintaining the scientific defensibility of its water quality criteria. In the aforementioned notice, EPA described its proposed methodology for appropriately determining bioaccumulation factors that are used to derive a criterion. As proposed, this would entail a two-step process: (1) calculation of a baseline BAF for organisms at each relevant trophic level from available field, laboratory, or model-derived bioaccumulation data, and (2) conversion of the trophic level-specific baseline BAFs to AWQC BAFs that reflect factors affecting bioavailability at the sites to which the AWQC is being applied. These factors include lipid content of consumed aquatic organisms and the organic carbon content (i.e., dissolved and particulate organic carbon) of waters applicable to the AWQC. In addition, EPA's proposed methodology includes guidance on selection of octanol-water partition coefficients ( $K_{ow}$ ), which are integral to several aspects of the methodology.

Although strong similarities exist between EPA's proposed national human health methodology (which includes the bioaccumulation methodology) and the 1995 methodology established under the Great Lakes Water Quality Initiative, all of the elements of EPA's proposed national bioaccumulation methodology require scientific peer review since it would be applied in a much broader scope than the GLWQI methodology (i.e., the national methodology applies to estuaries, lakes, streams, rivers throughout the United States whereas the GLWQI methodology applies just to waters of the Great Lakes region). In addition, the proposed national bioaccumulation methodology contains substantive changes since the 1995 publication of the GLWQI methodology (e.g., new guidance on selecting  $K_{ow}$  values, revised estimates of food chain multipliers, additional guidance for the use of field data, revised default assumptions on lipid content of consumed aquatic organisms and particulate and dissolved organic carbon).

At the time of this rulemaking, EPA did not have sufficient time to adapt the GLWQI methodology in order to develop National or California-specific BAF estimates for the 304(a) criteria being promulgated, and also have these modifications peer reviewed. After the peer review process on the revised national methodology is complete, EPA plans to update its National 304(a) criteria on a periodic basis. As National 304(a) criteria are updated, EPA will evaluate the need to promulgate revisions to criteria in the CTR. Given that California is the only state with no numeric human health criterion in place for PAHs, and given that EPA has not completed a national methodology for developing BAFs on a freely dissolved basis, EPA believes it is most appropriate to promulgate the PAH criterion using the BCF that is consistent with the NTR and its most current national 304(a) recommendations.

2. In response to the comment that back calculation of human health criteria makes little sense because the source of PAHs in fish is not likely to be the water column, EPA disagrees that expressing human health criteria in the form of ambient water column concentrations is inappropriate for hydrophobic chemicals such as PAHs. For highly hydrophobic chemicals (i.e.,  $\log K_{ow} > 6$ ), EPA agrees that it is often the case that the concentrations in the water column are much lower than those in other environmental compartments such as sediment or food. EPA also acknowledges that the contribution of chemicals in food and sediment-based organisms to overall chemical uptake in higher trophic level organisms such as fish can be substantial, compared to the water column. However, EPA believes that expressing human health criteria in terms of concentrations in the water column concentrations is valid because environmental compartments in aquatic ecosystems (water, organisms, sediments) are all interconnected and therefore, concentrations of contaminants within these compartments are continuously being exchanged as a result of ongoing and competing chemical and biological partitioning processes. At equilibrium, contaminant concentrations within these environmental compartments are expected to be closely correlated, which is consistent with chemical equilibrium partitioning theory (i.e., higher water column concentrations would be correlated with higher sediment and prey concentrations). Thus, valid expressions of human health criteria can in theory be made for various environmental compartments (water, organisms, sediments). The Agency's choice of the water column for expressing

human health criteria largely reflects the need to use chemical criteria for determining acceptable chemical loadings to the water column and because more advanced implementation procedures are available for relating water column concentrations to chemical loadings, as compared to other compartments such as sediments and fish tissue.

3. In response to the comment concerning fish consumption, EPA disagrees with the comment regarding the consumption rate. For additional discussion of this issue, refer to the response to CTR-002-002a concerning fish consumption.

4. EPA disagrees with the comment that because lipid content in finfish is generally higher on a whole body basis compared to edible portions (e.g., fillet), the use of whole-body BCFs to calculate EPA's ambient water quality criteria significantly overestimates the concentration of the chemical in the edible portion of the fish and by implication is overly conservative. EPA disagrees with this comment because for lipophilic compounds such as PAHs, each BCF used in calculation of a human health ambient water quality criterion is first normalized to the lipid content of the tissue in which the residue was measured (45 FR 79346-79348). For example, BCFs determined from whole body residues are adjusted for the lipid content measured in the whole body, and BCFs determined from fish fillet residues are adjusted for the lipid content measured in the fish fillet. EPA performs this lipid normalization because it is widely recognized that accumulation of lipophilic chemicals is generally proportional to lipid content (Mackay 1982; Connolly and Pederson, 1988; Thomann, 1989) and this adjustment makes BCFs determined for different tissues and species comparable. Because of this proportionality with lipid content, steady-state BCFs for lipophilic compounds can be extrapolated from one tissue to another so long as they are expressed on a percent lipid basis. Once the average of the individual lipid normalized BCFs are determined, this average, lipid normalized BCF is then adjusted to reflect the lipid content in the edible portions of aquatic organisms consumed by humans, which is 3.0% based on the EPA's 1980 Human Health Water Quality Criteria Methodology (45 FR 79318). In this way, the final BCF used to determine the human health water quality criterion reflects the chemical accumulation expected in the edible portions of consumed aquatic organisms. EPA further notes that for non-lipophilic compounds such as metals where lipid normalization does not apply, BCFs determined from only the edible portions are used in criteria calculations, per EPA's 1980 methodology.

#### References:

Connolly, J. and C. Pedersen. 1988. A Thermodynamic-based Evaluation of Organic Chemical Accumulation in Aquatic Organisms. *Environ. Sci. Technol.* 22: 99-103.

Mackay, D. 1982. Correlation of Bioconcentration Factors. *Environ. Sci. Technol.* 16: 274-278.

Thomann, R.V. 1989. Bioaccumulation Model of Organic Chemical Distribution in Aquatic Food Chains. *Environ. Sci. Technol.* 23: 699-707.

5. In response to the comment that EPA's BCFs for PAHs are oversimplified and overly conservative because BCFs have been shown to vary widely depending on fish species and therefore, BCFs should only be used from organisms consumed by recreational fishers in California, EPA disagrees. EPA agrees that BCFs from specific organisms caught and consumed in California, if available and appropriately weighted by consumption data, would allow for derivation of BCFs that would be most tailored to the California situation. However, EPA believes that the use of BCFs in its 304(a) criteria are still appropriate to California because they were selected and derived to reflect accumulation in aquatic organisms consumed throughout the United States, including those consumed in California. While EPA agrees that BCFs can vary depending on the species due to a variety of factors (e.g., lipid content of the

organism, differences in chemical metabolism, bioavailability differences, duration of exposure), EPA has taken a number of steps in its determination of BCFs for its 304(a) criteria to limit this variability. For example, EPA in its 1980 criteria guidance recommends that individual BCFs be adjusted for lipid content and be based on steady-state conditions (typically > 28 days) in order to reduce variability in BCF estimates. Furthermore, in its calculation of human health criteria, the final BCF used is adjusted for the consumption-weighted lipid content based on the variety of aquatic organisms consumed throughout the United States. In its more recent Great Lakes Water Quality Initiative guidance (60 FR 15366) and in its proposed national human health criteria guidance (63 FR 43,756), EPA also recommends BAFs and BCFs also be adjusted based on the freely dissolved fraction of the contaminant in water and be determined separately for organisms of different trophic levels as further means for reducing variability. However, until EPA's national methodology for deriving human health water quality has undergone scientific peer review and is made final, the human health criteria for PAHs in the final CTR represent the most recent 304(a) criteria available and are based on the most current national human health criteria methodology. With respect to BCFs for PAHs, EPA used a bioconcentration factor of 30 for mosquito fish from Lu et al. (1977) which was measured from a 33-day exposure in a model aquatic ecosystem environment. EPA believes that this value is appropriate because it is believed to more closely approximate steady-state conditions compared to other, more variable BCF values which were based on much shorter exposure periods (e.g., 3-days) and because it accounts for the effects of metabolism which is known to be important for PAHs.

6. In response to the comment that the BCF neglects potential uptake from sediments for PAHs into benthic organisms and subsequent ingestion by higher organisms, EPA agrees that in general, standard laboratory-based BCFs involving water-only exposures ignore the potential uptake of contaminants from sediment-dwelling organisms (and other prey species). For some chemicals (e.g., high log K<sub>ow</sub> chemicals that are not readily metabolized), omission of exposure via the aquatic food web can underestimate exposure and bioaccumulation. For this and other reasons, EPA relies on bioaccumulation factors (BAFs), which incorporate multiple routes of exposure, for determining human health water quality criteria under the Great Lakes Water Quality Initiative Guidance (60 FR 15366). EPA is also in the process of adopting this general BAF approach in its proposed revisions to its 1980 National guidance for determining human health water quality criteria (63 FR 43,756). However, because the Great Lakes BAFs rely on a number of considerations and assumptions that are specific to the Great Lakes (i.e., lipid content of aquatic species consumed in the Great Lakes region, freely dissolved fraction in the Great Lakes, food chain multipliers specific to the Great Lakes ecosystem), they cannot be directly applied to national 304(a) criteria or other areas without adjustment and significant additional analyses to develop appropriate BAFs. As stated earlier, EPA is in the process of updating its national methodology which is undergoing scientific peer review and is developing national, default BAFs. Until such time as EPA revises its national methodology, the human health criteria for PAHs in the CTR represent the most recent 304(a) criteria available and are based on the most current national methodology.

With respect to EPA's PAH criteria, EPA used a bioconcentration factor of 30 for mosquito fish from Lu et al. (1977). This BCF was measured from a 33-day exposure period in a model aquatic ecosystem environment using a model food chain that included benthic organisms. Therefore, while the model ecosystem used by Lu et al (1977) may not completely replicate the exposure conditions of typical field situations, EPA believes that it does not ignore potential exposure via benthic organisms and disagrees with the comment.

7. In response to the comment that DOM (dissolved organic matter) may exhibit a significant effect on the BCF for PAHs, EPA agrees with the commenter that DOM (what EPA calls dissolved organic carbon or DOC) can influence the freely dissolved fraction of PAHs and other nonpolar organic chemicals. As stated above, EPA agrees that the freely dissolved fraction of PAHs is the most bioavailable fraction for

uptake by aquatic organisms. However, EPA believes that it would be premature to place in the final rule a criterion that is based on bioaccumulation factors normalized to the freely dissolved fraction in water because EPA has not yet completed peer review of its proposed national methodology for taking this approach. Until EPA completes the peer review of its national methodology for development of bioaccumulation factors, EPA believes it is most appropriate to base the criterion on the BCF, as is consistent with the NTR and EPA's current national recommended section 304(a) criteria.

Although EPA based its bioaccumulation factors (BAFs) on the freely dissolved fraction for the Great Lakes Water Quality Initiative (GLWQI) rulemaking, EPA did not have sufficient time to adapt the GLWQI methodology in order to develop National or California-specific BAF estimates for the human health criteria being promulgated, and also have these modifications peer reviewed. After the peer review process on the revised national methodology is complete, EPA plans to update its National 304(a) criteria on a periodic basis. As National 304(a) criteria are updated, EPA will evaluate the need to promulgate revisions to the CTR. Thus, given that California is the only state with no numeric human health criterion in place for PAHs, and given that EPA has not completed a national methodology for developing BAFs on a freely dissolved basis, EPA believes it is most appropriate to promulgate the PAH criterion using the BCF that is consistent with the NTR and its most current national 304(a) recommendations.

With respect to the BCF used to derive the PAH criteria, EPA's BCF was derived from a study by Lu et al. (1977) which was measured in a model aquatic ecosystem environment containing multiple species at different trophic levels (e.g., algae, zooplankton, mosquito larvae, fish). Therefore, it is likely that some organic carbon was present in the study and that some sorption of the PAH compound (benzo-alpha-pyrene) onto dissolved and particulate carbon occurred thereby reducing the bioavailability of some portion of the PAH compound present. Further, since sufficient information is not presented in the Lu et al. study to estimate the freely dissolved fraction of the PAH compound, EPA cannot determine the extent to which the freely dissolved fraction associated with the Lu et al. (1977) study would be systematically higher or lower than sites in California to which the criteria would apply.

8. In response to the comment EPA's PAH criteria are overly simplified and overestimates exposure because metabolism of PAHs and other factors indicate that some PAHs do not bioaccumulate extensively in fish, EPA disagrees. EPA agrees that some PAHs are known to metabolize rapidly in fish which results in much lower residues than would be predicted by the octanol-water coefficient (Kow). For this very reason, EPA chose not to rely on Kow-based estimates of bioconcentration for deriving the proposed human health water quality criteria for PAHs. Instead, EPA based the proposed criterion for PAHs on a bioconcentration factor of 30 determined for mosquito fish from Lu et al. (1977). This BCF was measured from a 33-day exposure in a model aquatic ecosystem environment and incorporates the effects of metabolism by organisms at various trophic levels. Thus, EPA believes that its BCF is appropriate for PAHs and is not overly conservative because it takes into account the effects of metabolism.

9. Another comment was made that EPA's BCF for PAH is oversimplified and overestimates exposure because: (1) a wide range of BCFs exists for high molecular weight PAHs, (2) different methods are used to determine BCFs, (3) BCFs are used from exposure durations that are too short, (4) use of field BCF studies only assumes that water is the exposure source, (5) BCF studies involve high exposure concentrations. While EPA agrees that BCFs can vary depending on the species due to a variety of factors (e.g., lipid content of organism, differences in chemical metabolism, bioavailability differences, duration of exposure), EPA has taken a number of steps in its determination of BCFs for its 304(a) criteria to limit this variability and disagrees with this comment. For example, EPA in its 1980 criteria guidance recommends that individual BCFs be adjusted for lipid content and be based on steady-state

conditions (typically > 28 days) in order to reduce variability in BCF estimates. Furthermore, in its calculation of human health criteria, the final BCF used is adjusted for the consumption-weighted lipid content based on the variety of aquatic organisms consumed throughout the United States. EPA also recommends that exposure concentrations be below levels that are cause overt toxicity to the test organisms. In its more recent Great Lakes Water Quality Initiative guidance (60 FR 15366) and in its proposed national human health criteria guidance (63 FR 43,756), EPA also recommends BCFs and bioaccumulation factors (BAFs) also be adjusted based on the freely dissolved fraction of the contaminant in water and be determined separately for organisms of different trophic levels as further means for reducing variability. However, until EPA's national methodology for deriving human health water quality has undergone scientific peer review and is made final, the human health criteria for PAHs in the CTR represent the most recent 304(a) criteria available and are based on the most current national human health criteria methodology. Therefore, EPA believes BCFs derived using its existing 1980 national methodology and BAFs resulting from its forthcoming revised national methodology are not oversimplified and do not result in overly conservative estimates of chemical accumulation.

With respect to BCFs for PAHs, EPA used a bioconcentration factor of 30 for mosquito fish from Lu et al. (1977) which was measured from a 33-day exposure period in a model aquatic ecosystem environment. This value was chosen for the BCF because it is believed to more closely approximate steady-state conditions compared to other, more variable BCF values which were based on much shorter exposure periods (e.g., 3-days) and accounts for the effects of metabolism which is known to be important for PAHs. Therefore, EPA disagrees that this BCF is oversimplified or results in an overestimation of PAH accumulation.

EPA disagrees that BCFs based on field data are inappropriate because they assume that chemical exposure result from only from water. On the contrary, such field-measured BCFs (now called BAFs) reflect uptake from multiple exposure routes (water, diet, sediment) but merely reference the accumulation to the water concentration. EPA believes that expressing human health criteria in terms of concentrations in the water column concentrations is valid because environmental compartments in aquatic ecosystems (water, organisms, sediments) are all interconnected and therefore, concentrations of contaminants within these compartments are continuously being exchanged as a result of ongoing and competing chemical and biological partitioning processes. At equilibrium, contaminant concentrations within these environmental compartments are expected to be closely correlated, which is consistent with chemical equilibrium partitioning theory (i.e., higher water column concentrations would be correlated with higher sediment and prey concentrations). Thus, valid expressions of human health criteria can in theory be made for various environmental compartments (water, organisms, sediments). The Agency's choice of the water column for expressing human health criteria largely reflects the need to use chemical criteria for determining acceptable chemical loadings to the water column and because more advanced implementation procedures are available for relating water column concentrations to chemical loadings, as compared to other compartments such as sediments and fish tissue.

10. Regarding the comment that BAFs should be used for further bioaccumulation evaluations in water quality criteria documents with particular reference to PAHs, EPA agrees. As discussed previously, EPA is in the process of revising its national human health methodology and has proposed a methodology that would develop water quality criteria for PAHs that are based on BAFs (see 63 Fed. Reg. 43,756-43828; August 14, 1998, specifically pp. 43806-43823). However, this methodology has not been finalized and is currently undergoing external scientific peer review. EPA believes that scientific peer review is essential to maintaining the scientific defensibility of its water quality criteria. When this methodology is made final, EPA will develop revised 304(a) criteria for chemicals, including PAHs, that are based on BAFs rather than BCFs. EPA notes that with respect to the BCF used in deriving the proposed PAH criteria, this BCF was similar to a BAF because it was measured in a model aquatic ecosystem

environment that contained organisms at different trophic levels.

11. The proposed PAH water quality standards for California are part of a Clean Water Act (CWA) Section 303 promulgation that EPA has undertaken. For this promulgation, EPA utilizes published IRIS cancer slope factors and utilizes published guidance documents and adopted Agency policies. As such, the commenter is correct that EPA does not have an established policy on assigning cancer potencies based on TEFs to the various PAH chemicals. However, the State of California can endeavor to establish subsequent standards based on their own current policy. EPA would most likely approve such a decision during the Agency's triennial review of State standards, as long as the standard was scientifically defensible and was consistent with CWA requirements.

12. EPA agrees with the commenter that probabilistic approaches can be a viable option for addressing uncertainty and variability in the development of ambient human health water quality criteria, provided sufficient data are available from which to estimate statistical properties of input distributions (e.g., mean, standard deviation, type of distribution) and the methods are scientifically defensible. However, in many situations, insufficient data are available to estimate the necessary statistical properties of input distributions with sufficient confidence to provide meaningful results. Furthermore, it is highly unlikely that scientifically defensible input distributions could be used for all input parameters for all criteria in the CTR. It should be noted that EPA's criteria methodology does not preclude States and Tribes from using probabilistic approaches for criteria determinations, provided such approaches produce criteria which are scientifically defensible and achieve an appropriate level of protection. However, EPA does not consider the use of probabilistic modeling approach to be a prerequisite for deriving scientifically defensible criteria. EPA has demonstrated and continues to believe that scientifically defensible water quality criteria can be produced based on point estimates of toxicity and exposure parameters provided the estimates are based on reasonable and appropriate assumptions (i.e., worst case assumptions for all input parameters would probably not be reasonable because they would probably correspond to a highly unlikely or nonexistent risk scenario). EPA's criteria are not based on worst case assumptions but rather are based on assumptions that reflect different levels of conservatism depending on the input parameter. Together, these input parameters result in criteria that the Agency believes achieves an appropriate level of protection for its national 304(a) criteria and are appropriate for promulgation in California.

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Subject Matter Code: C-12a THMs Human Health

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Comment ID: CTR-020-018

Comment Author: City of Stockton

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-12a THMs Human Health

References:

Attachments? Y

CROSS REFERENCES

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Comment: II. Use of New Scientific Information

The City acknowledges and supports EPA's update of several water quality criteria including those for mercury, cadmium and arsenic. While a number of criteria were updated to reflect current scientific information, there are a few notable exceptions.

The following briefly addresses the key updates and omissions that should be addressed in the final publication of this rule.

7. Adoption of More Stringent Requirements for Maximum Containment Levels ("MCLs") is Inappropriate

A number of the water quality-based criteria establish water ingestion-related requirements more stringent than tap water criteria. This leads to the anomalous result that ingestion of effluent is regulated more stringently than ingestion of tap water. An example of this problem is bromodichloromethane ("BDCM") and dibromochloromethane ("DBCM") which are two types of halomethanes formed by chlorination of effluents. EPA studies recognize that tap water contains higher levels of these constituents, but their presence is tolerated due to the beneficial effects of chlorine on killing bacteria. The CTR would regulate these pollutants in surface waters at one-tenth the level present in tap water.

EPA policies recognize that this is not a reasonable result and that application of the MCL should be considered protective in such instances (see, 62 Fed. Reg. 27709). Consistent with recent EPA action to delete the arsenic criteria from the CTR the Agency should delete the water ingestion-related requirements for BDCM and DBCM. Such action is even more appropriate for these pollutants as they are volatile and very shortlived in the environment. Thus, the discharge of these pollutants by publicly owned treatment works presents no actual threat of drinking water contamination.

Response to: CTR-020-018

EPA disagrees with commenter. EPA believes that discharges can meet both the requirements of the Safe Drinking Water Act (SDWA) and the Clean Water Act (CWA) after the CTR is promulgated. EPA believes that any final limits for THMs would be feasible to meet because it is unlikely that a discharger would receive criteria end-of-pipe limits due to the dilution in the receiving stream, as well as other factors taken into account, when translating a criterion into a water quality criteria-based effluent limit. EPA acknowledges that water quality criteria may be more stringent than drinking water MCLs and believes that this is appropriate (refer to response on this same issue in CTR-025-002a and

CTR-025-003a). Under the CWA, water quality criteria are required to protect the designated use, without respect to economic factors. Under the SDWA, EPA may take into account cost or availability of treatment technology in setting an MCL. As expressed by the commenter, the presence of the two trihalomethanes mentioned is a matter of balancing the potential for chemical risk associated with the formation of these chlorine byproducts and the beneficial effects of chlorine reducing microbial risk. Although EPA has stated that MCLs may be considered protective in the absence of water quality criteria, the Agency recommends the development of water quality criteria since the methodology specifically accounts for fish ingestion route exposure. Because water quality criteria take into account exposure to fish as well as water, they may be more stringent. Other factors that may also account for stringency differences are discussed in the response to CTR-025-002a. Concerning volatility, EPA does not disregard chemicals simply because they are volatile. Many chemicals may be somewhat volatile or short-lived, but may present health risks due to the frequency of discharge, biomagnification, or other factors.

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Comment ID: CTR-025-003c  
Comment Author: Metro. Water Dist. of So. Cal.  
Document Type: Water District  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-12a THMs Human Health  
References:  
Attachments? Y  
CROSS REFERENCES C-17a  
C-16

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Comment: Human health water quality criteria for a number of other priority pollutants are at levels significantly below the corresponding California SDWA MCL. While Metropolitan favors a margin of safety between human health-water quality criteria and the SDWA MCL, significant differences between these two regulatory requirements can create problems in the course of maintenance of drinking water facilities.

For example, water utilities need to periodically "de-water" their lines as part of routine maintenance. The de-watering of distribution lines transporting treating drinking water results in discharges containing trihalomethanes (THMs). The CTR proposes human health criteria for each of the four compounds comprising the THM classification. The total limit under the CTR for THMs as a group is 11 ug/L, significantly below the California SDWA MCL of 100 ug/L as well as the proposed level of 80 ug/L for Stage 1 of the Disinfection/Disinfectant By-Products Rule. Thus, the discharge of water that meets California SDWA standards could potentially violate CTR human health criteria if that water is discharged to a source of drinking water supply. Metropolitan requests that EPA establish CTR human health criteria for THMs consistent with the California SDWA MCLs for THMS.

Response to: CTR-025-003c

EPA acknowledges that water quality criteria may be more stringent than drinking water MCLs and believes that this is appropriate (refer to response on this same issue in CTR-025-002a and CTR-025-003a).

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Comment ID: CTR-059-008

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-12a THMs Human Health

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES

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Comment: Due to the time constraints of the comment period, we have focused our review and comments primarily on those criteria that we anticipate may cause compliance issues for one or more of the Sanitation Districts' WRPs (see below). Based on our initial review of the proposed rule, the Sanitation Districts recommend that adoption of some of the criteria be deferred. As explained in the attached comments, we believe that there are significant scientific issues regarding the human health criteria for several trihalomethanes that call into question the accuracy and appropriateness of the proposed criteria. In addition, we reconmend that EPA defer adoption of those criteria that are below detection limits and that have not been demonstrated to be adversely affecting water quality or the attainment of designated uses on a water body-specific basis in California. In addition, we recommend that EPA not adopt criteria for effluent dependent waters, unless they have been adjusted to reflect the characteristics of this type of water body.

#### Trihalomethanes Human Health Criteria

EPA has proposed human health criteria for consumption of water and organisms for four of the Trihalomethanes (THMs): bromofom (4.3 ug/L), Chlorodibromomethane (0.41 ug/L), Chloroform (5.7 ug/L), and Dichlorobromomethane (0.56 ug/L). We have a number of concerns about these criteria and recommend that EPA defer the adoption of these criteria or consider utilizing either the current or proposed drinking water standards in lieu of the proposed criteria.

First we can find no basis for the Bioconcentration Factor (BCF) fisted in the CTR Administrative Record Matrix (ARM), or in any of EPA's supporting documentation for the CTF, The ARM lists the BCF for chloroform as 3.75; the other three compounds have been assigned the same BCF "based on chloroform." We have been unable to determine the origins of the 3.75 BCF. The Administrative Record Matrix refers back to the 1980 Water Quality Criteria Document (WQCD).(\*4) On page C-39 of the WQCD, EPA notes that

"Approximately 1 percent of the chloroform exposure results from the consumption of aquatic organisms which exhibit an average bioconcentration potential of 3.75-fold. The remaining 99 percent of chloroform exposure results from drinking water."

No further reference is provided for the derivation of the 3.75 bioconcentration factor.

Second, we do not believe that the four THMs bioaccumulate in fish tissue, EPA has established a policy for setting hunan health criteria in the Great Lakes Initiative whereby chemicals with half-lives less than eight weeks in water columns, sediments or biota are not bioaccumulative chemicals of concern (BCCs). Literature on chloroform indicates that it is non-persistent in water, with a half-life of less than two

days.(\*5) Based on this finding, chloroform should not be considered as a BCC. This conclusion is supported by other information in the literature which shows that the THMs do not bioaccumulate in fish.(\*6)(\*7)(\*8) Thus, the BCF of 3.75 used by EPA in calculating criteria for these four THMs is not a documented nor reasonable assumption for calculating human health criteria.

Third, similar to the situation with arsenic, EPA has different human health values for drinking water and for ambient water. The current drinking water MCL for the THMs is 100 ug/L with a proposed MCL of 80 ug/L. The proposed MCL was recently endorsed by EPA's Microbial/Disinfection By-Products Federal Advisory Committee as part of an Agreement in Principle, and will form the basis for the 1998 Enhanced Surface Water Treatment Rule. We believe that the application of the CTR criteria is inappropriate and potentially wasteful of the status resources if it causes POTWs to invest in treatment merely for treatment's sake. Thus, we recommend that EPA defer the adoption of these criteria or consider utilizing either the existing or proposed MCL in setting the human health criteria for the THMs in the CTR.

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(\*4) U.S. Environmental Protection Agency, Ambient Water Quality Criteria for Chloroform (EPA 440/5-80-033, October 1980).

(\*5) Information obtained from University of Virginia, Office of Recycling and Environmental Information.

(\*6) Oliver, B.G. and A.J. Niimi. "Bioconcentration Factors of Some Halogenated Organics for Rainbow Trout: Limitations in Their Use for Prediction of Environmental Residues." Environ. Sci Technol. 1985, 19,842-849.

(\*7) Young, D.R., R.W. Gossett, R.B. Baird, D.A. Brown, P.A. Taylor and M.J. Miille. "Wastewater Inputs and Marine Bioaccumulation of Priority Pollutant Organics Off Southern California." Chapter 60 In Water Chlorination Environmental Impact and Health Effects. Ann Arbor Science Publishers, Inc., Ann Arbor Michigan, 1983.

(\*8) Scott, G.I. "Physiological Effects of Chlorine-Produced Oxidants, Dechlorinated Effluents and Trihalomethanes on Marine Invertebrates." Chapter 57 In Water Chlorination Environmental Impact and Health Effects. Ann Arbor Science Publishers, Inc., Ann Arbor Michigan, 1983.

Response to: CTR-059-008

EPA acknowledges that water quality criteria may be more stringent than drinking water MCLs and believes that this is appropriate (refer to responses on this same issue in CTR-025-002a and CTR-025-003a). See also response to CTR-020-018. Regarding detection limit issues, refer to the response on effluent-dependent waters in CTR-034-007 and CTR 036-009.

The commenter is incorrect regarding the lack of documentation on the BCF for chloroform. The basis of the value of 3.75 is explained in the very document that the commenter claims it is lacking from. Using a documented BCF of 6 and an average lipid content of 4.8 percent from bluegills, EPA used a lipid adjustment factor based on the weighted average lipid percentage of 3 for the same freshwater and estuarine species that represent the fish consumption rate of 6.5 gm/day. Refer to text in EPA 440/5-80-033, October 1980, pp. C-3 and C-4).

However, EPA has decided to reserve the numeric criteria for chloroform in the final rule. EPA is

revisiting the cancer risk assessment for chloroform (see section G.6. of the preamble).

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Comment ID: CTR-089-004  
Comment Author: Las Virgenes Mncpl Water Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-12a THMs Human Health  
References:  
Attachments? N

#### CROSS REFERENCES

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Comment: While the draft regulations demonstrate clear progress on these and other issues, there remain some unresolved problems that could compromise our ability to serve our customers. We offer these comments in the hope of minimizing those potential impacts.

#### Disinfection By-Products

Sanitation utilities may not be able to meet the proposed criteria for trihalomethanes (chloroform, dichlorobromomethane, chlorodibromomethane), which appear to be more stringent than those adopted for drinking water standards. Some consideration should be given to dischargers who must, by law, disinfect their effluent discharges, as the most widely-used disinfection method (oxidation by chlorine) unavoidably produces trihalomethanes. In addition, chlorine is an integral treatment process additive for control of filamentous algae in our activated sludge process and for operational control of our tertiary filtration process -- we simply must use this chemical to optimize process performance.

The proposed criteria imply a potentially enormous investment in alternative disinfection methods, or equally-expensive post-disinfection removal using carbon adsorption or air-stripping towers. Our preliminary estimate is that compliance with the proposed criteria for trihalomethanes would cost our served communities over \$650,000 per year. Furthermore, the benefits of these expenditures are unclear, since neither drinking water supplies nor consumptive uses such as fishing are important uses of the receiving waters.

Response to: CTR-089-004

EPA acknowledges that water quality criteria may be more stringent than drinking water MCLs and believes that this is appropriate (refer to response on this same issue in CTR-025-002a and CTR-025-003a). See also response to CTR-020-018.

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Comment ID: CTR-090-022  
Comment Author: C&C of SF, Public Util. Commis.  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-12a THMs Human Health

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

#### **CROSS REFERENCES**

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Comment: Trihalomethanes (THM) - The current California Department of Health services criterion for Total THMs, is 100ug/L to be reduced to 80 ug/L in 1998. Chloroform is the dominant THM in drinking water and is a disinfection byproduct and is typically found in drinking water in the range of 34-45 ug/l. The proposed value under the CTR is 5.7 ug/L, which is two orders of magnitude below the chronic toxicity criterion and one order of magnitude below the California DHS standard for drinking water promulgated under the auspices of the Safe Drinking Water Act. Such a restrictive criterion will inhibit municipal water supply agencies in operation and maintenance of their water supply system. EPA needs to explain the rationale for such a restrictive criterion for THM.

Response to: CTR-090-022

EPA acknowledges that water quality criteria may be more stringent than drinking water MCLs and believes that this is appropriate (refer to response on this same issue in CTR-025-002a and CTR-025-003a). See also response to CTR-020-018. However, EPA has decided to reserve the numeric criteria for chloroform in the final rule. EPA is revisiting the cancer risk assessment for chloroform (see section G.6. of the preamble).

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Subject Matter Code: C-13 Risk Level

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Comment ID: CTR-003-003

Comment Author: City of Riverside

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: C-13 Risk Level

References:

Attachments? N

**CROSS REFERENCES**

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Comment: 3) We do not agree with the use of the  $10^{-6}$  risk level proposed here. As is noted in the proposed rule, a significant uncertainty factor ranging from 10 to 10,000 is used to set human health criteria. We can understand the use of these factors but the public should understand that they may be paying to protect to the  $10^{-10}$  or one in ten billion risk level. We suggest that the risk level used be tied to the certainty of risk. For example, where uncertainty factors range from 1 - 10, use  $10E-6$ ; 11 - 100,  $10E-5$ ; 101 - 10,000,  $10E-4$  risk level. Another option would be to promulgate a range from which the permit writer may choose depending on the site specific nature of the waters and the needs of the effected individuals. At a minimum the EPA should promulgate at a factor of  $10E-5$  and allow the regional boards to set more stringent criteria if warranted. We all need to keep in mind that lower limits mean higher costs and higher costs here mean fewer resources available elsewhere. Even with the best of intentions, we may be sacrificing hundreds in an attempt to save one. For example, an increase in sewer rates reduces the discretionary money normally used for the purchase of food and medical services with potentially significant impacts on the poor.

Response to: CTR-003-003

See also response to Comment CTR-058-001.

The comment author suggests that the rule provide variable risk levels dependent on the uncertainty factor used in calculating national criteria guidance. It is suggested that higher risk levels be allowed for parameters having criteria based on a higher uncertainty factor. This suggestion runs counter to EPA policy that greater protection be provided when uncertainty concerning the adequacy of protection is greatest.

This author also suggests giving individual permit writers the authority/responsibility to choose the risk level on a site specific basis for each permit. This approach, along with the above suggestion, would result in risk levels that vary both on a parameter specific basis and a site specific basis. This approach may result in selective inadequate protection for highly exposed populations and even for the general population. EPA would support, in this case, an approach that includes scientifically valid site-specific criteria.

If the State has a scientific basis, and wants to adopt more or less protective site-specific criteria, it is within the State's discretion to do so (See response to CTR-058-001), but this rule is a reasonable attempt to protect all of California's waters.

EPA cannot respond specifically to the author's assertion of higher costs for sewer ratepayers because it

is provided without supporting evidence. EPA's Economic Analysis indicates that a change in the risk level from 10<sup>-5</sup> to 10<sup>-6</sup> would cause only a negligible increase in compliance costs for the State as a whole based on a sample of California facilities (Economic Analysis of the California Toxics Rule, P. A-2). Due to limited resources, EPA was not able to estimate potential costs for every facility in the State. In any case, water quality criteria must be based on that which is necessary to protect human health and the environment and must be scientifically based. Under the Clean Water Act, this requirement overrides consideration of economic impacts.

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Comment ID: CTR-005-007

Comment Author: Novato Sanitary District

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/23/97

Subject Matter Code: C-13 Risk Level

References:

Attachments? Y

CROSS REFERENCES

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Comment: 6. Human health criteria for carcinogens should be adopted at a 10E-5 risk level. Based on the analyses performed by other Bay Area POT\ft, the District is concerned that organics monitoring of its effluent will identify human health criteria that cannot be achieved without dilution well beyond 1 0: 1 (e.g., aldrin, PAHS, heptachlor). At a 10E-6 risk level, the District would be forced to add activated carbon at a significant cost or possibly go to land disposal at an enormous cost. The benefits would be nil because the District is such a small contributor to the Bay and generally, according to the results of the Regional Monitoring Program, these criteria are not exceeded in the Bay.

Response to: CTR-005-007

EPA disagrees with this comment.

The comment author suggests that the rule should provide for a higher allowable risk level because monitoring indicates that current effluent concentration for certain pollutants exceed the levels provided at a risk level of 10<sup>-6</sup> leading to enormous treatment/disposal costs. In the first place, the comment author has not provided specific data or evidence that shows any additional treatment will be needed. Secondly, EPA cannot justify reducing protection to California's population across the State based on an assertion of a need for additional treatment and consequent added costs. Other federal and State processes such as site-specific criteria that lessen the need for pollutant removal and TMDLs that shift the need for pollutant load removal to other sources of that pollutant may be scientifically justified and could facilitate moving toward less costly treatment alternatives, should additional treatment be indicated; however, it is essential that beneficial uses remain fully protected.

In addition, the commentor notes that the criteria are not exceeded in the Bay. The State permit authority must show that the discharge of organics have reasonable potential to cause or contribute to an exceedence of water quality criteria in order to establish effluent limits. If no reasonable potential is established, the facility will not incur any costs for the control of organics.

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Comment ID: CTR-011-001a  
Comment Author: City of Simi Valley  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-13 Risk Level  
References: Letter CTR-011 incorporates by reference letters CTR-027 and CTR-034  
Attachments? Y  
CROSS REFERENCES C-24  
E-01d

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Comment: The City of Simi Valley discharges approximately 10 million gallons per day (mgd) of tertiary-treated wastewater (as well as municipal storm water) to the Arroyo Simi, an effluent dependent water body. Through much of the year, Arroyo Simi is dry several miles downstream from the City. The Arroyo Simi Characterization Report, completed by the City in 1995, concluded that the arroyo does not support a significant fishery, and observed only arroyo chub, mosquito fish and blunt-nosed minnow in the stream. Although designated as a potential municipal water supply in the Basin Plan, the arroyo waters are not used for municipal purposes. Effluent monitoring are limited, but available data indicate that the City's discharge may have a reasonable potential to exceed the proposed aquatic life criteria for several metals and the proposed human health criteria for several carcinogens.

Since Simi Valley is largely a residential community with supporting commercial development and little industry, and since the City already has an effective pretreatment program, it is unlikely that pollution prevention efforts would effectively reduce the problematic constituents. More likely, the City would be faced with end-of-pipe treatment controls such as lime precipitation and carbon adsorption to achieve the proposed criteria. The costs would undoubtedly be significant and the benefits relatively minor.

Under these circumstances, it appears reasonable to adopt criteria for Arroyo Simi, and similar effluent dependent waters, that are reasonably achievable without costly end-of-pipe controls and that reflect the actual use of the water (i.e., generally such waters are used for fishing or drinking). One way to address this issue, consistent with the requirements of the Clean Water Act, would be to adopt specific human health criteria for Arroyo Simi and other effluent dependent streams based on a cancer risk coefficient of  $10E-5$  or in some cases  $10E-4$ . Based on the limited data collected by the City, risk levels of  $10E-4$  would have to be adopted for dioxins, aldrin, alpha-BHC and 4,4,-DDD (see Table 1). Risk levels of  $10E-5$  would be sufficient for chloroform and endoslfan 11 (Id.).

Response to: CTR-011-001a

EPA disagrees with this comment.

See also responses to CTR-058-001 and CTR-005-007.

When EPA promulgates a rule, it follows national policy and what it understands to be the policy of the state in selecting a risk level for the general population. (See response to comment CTR-058-001) EPA would not use a higher general risk level for specific pollutants unless it had data showing that consumption of those pollutants is less than the general consumption levels EPA uses along with the general risk level of  $10-6$ .

The commenter suggests determining criteria by assessing what the condition of the effluent is, without assuming application of what it deems as costly controls, by applying a different risk level for various pollutants for the same waterbody. In other words, the commenter proposed that site specific human health criteria be adopted for their receiving water based on individual pollutant effluent data. Site specific criteria are the prerogative of the State and are generically recognized in this rule; however, effluent data cannot serve as sufficient justification for criteria.

The State could remove a use designation pursuant to its own regulations as long as it is not an existing use. Justification for the use removal or replacement would need to be developed as provided for in 40 CFR Part 131. This action would require a Use Attainability Analysis and would need to assure that full protection of existing uses and other designated beneficial uses of the waterbody is provided.

EPA cannot respond specifically to the commenter's assertion that it would incur costs for end-of-pipe costs for sewer ratepayers because it is provided without supporting data. EPA's Economic Analysis indicates that a change in the risk level from 10<sup>-5</sup> to 10<sup>-6</sup> would cause only a negligible increase in compliance costs for the State as a whole based on a sampling of facilities (Economic Analysis of the California Toxics Rule, P. A-2). Due to limited resources, EPA was not able to estimate potential costs for every facility in the State. In any case, water quality criteria must be based on that which is necessary to protect human health and the environment and must be scientifically based. Under, the Clean Water Act, this requirement overrides consideration of economic impacts.

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Comment ID: CTR-015-002

Comment Author: Eastern Municipal Water Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/23/97

Subject Matter Code: C-13 Risk Level

References:

Attachments? N

CROSS REFERENCES

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Comment: Cancer Risk Level (FR p.42181, Preamble section E.3.f.)

The Agency requests comment on the adoption of a 10E-5 risk level for carcinogenic pollutants rather than a 10E-6 risk level. The Agency should be aware of an analysis conducted by the State Water Resources Control Board ("State Board") as part of the Functional Equivalent Document, or environmental impact review, for the Inland Surface Waters Plan in March, 1992. The analysis compared inland discharger's ability to attain objectives at both risk levels. Effluent data from 23 inland dischargers for the period of 1989 to 1991 were used. Thirty-nine constituents (mostly organic compounds) were examined. Although the State Board selected the 10E-6 level, differences in attainability were shown and described.

In the Agency's Economic Analysis of July, 1997 for this Rule, there was a comparison of costs between the two risk levels in Section 4. It is stated on p. 4-17 that there was a lack of data for organic pollutants and, for those facilities with data, most of these pollutants were found below detection limits. It is not certain, then, how many constituents were examined for the risk level economic analysis. Also, fewer dischargers were examined by the Agency than by the State Board in its previous studies. However, in

Section 10 (p. 10-2), it was concluded by the Agency that there were minimal cost differences between the two risk levels.

Obviously, the 10E-5 risk level would be more attainable and less costly than the 10E-6 risk level. It is probable, from our review so far, that the Agency has underestimated the cost differences. A more thorough cost/benefit analysis, i.e., a comparison done at a greater level of detail such as the State Board had done for attainability, is needed for the Agency's Rule before a risk level is suggested or adopted.

Response to: CTR-015-002

EPA disagrees with this comment.

See response to CTR-058-001.

In regard to the comment about the results of the economic analysis which compared the potential costs of a 10-5 and 10-6 risk level, EPA believes that its methodology is sound. EPA examined recent monitoring data for each sample facility. The fact that some facilities have a lack of data or that many of the organic pollutants that were monitored were measured below the detection limit does not necessarily mean that these facilities would not be able to comply with WQBELs based on a 10-6 risk level. Even if facilities expand monitoring efforts or if detection limits are improved, the commenter has provided no evidence that compliance costs would significantly increase. EPA included as many sample facilities it could to project statewide costs taking into account time and resource constraints.

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Comment ID: CTR-021-005a

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: C-13 Risk Level

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES C-28

E-01c

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Comment: It is with a sense of reluctance that Sunnyvale joins in CASA/Tri-TAC's adverse comments on the CTR and the EA, and Sunnyvale does so in a spirit of constructive criticism and with an expectation that the Agency will make the necessary adjustments in its approach towards the CTR before the final rule is promulgated. In addition, in the same spirit and with the same expectation, Sunnyvale would like to make the following points on its own behalf:

2. **Obligation to Assess Alternative Cancer Risk Levels for Human Health-Based Criteria.** Sunnyvale is gravely concerned that EPA has used the wrong approach in proposing to establish human health criteria for organic pollutants, particularly those pollutants for which the proposed criteria are below the method level of detection ("MDL"). Sunnyvale recommends that EPA should thoroughly assess all of the potential impacts, including costs and benefits, of the 10E-4 and 10E-5 risk levels before proposing the

human health-based criteria. As pointed out in the EOA Letter, there is a significant potential for advancing technology to lower the MDL for many pollutants to the point where laboratory equipment is able to measure some or all of the organic compounds for which EPA is proposing to establish criteria at the new level. It is intuitively obvious that the costs of attaining criteria set at the 10E-6 level will be significantly greater than attainment of a 10E-5 or 10E-4 level, particularly where, as pointed out in the EOA Letter, the only available method of treatment is granular activated carbon. Sunnyvale is concerned that the EA does not adequately address the potential for these costs, and, consequently, does not take these potential costs into account in determining whether to exercise its flexibility in choosing whether to use a 10-4 , 10-5 or 10-6 cancer risk level as the basis for its CTR promulgation.

EPA is required by Executive Order 12866, the Regulatory Flexibility Act and the Unfunded Mandates Reform Act to identify and analyze alternatives to a proposed rule. We cannot understand, therefore, why EPA has done such a cursory analysis in the preamble to the CTR and the EA of the alternatives to the use of the most stringent (10E-6) risk level for establishing criteria for human health effects of pollutants, particularly organic pollutants. EPA cannot base its selection of the 10E-6 level based upon previous regulatory pronouncements by the State of California. Any new determination by the State will be subject to the analytical requirements of Section 13241 of the Porter-Cologne Act and by review by the Office of Administrative Law. Thus, it is not a foregone conclusion that the State will ultimately select the 10E-6 level. EPA has its own legal requirements to fulfill. Accordingly, we ask that EPA not promulgate the final human health criteria for the pollutants of concern unless and until it has adequately analyzed the costs and other implications of the various alternatives to the 10E-6 level.

In conclusion, we are entirely supportive of many of EPA's inovative approaches towards development of the CTR, particularly as regards the toxic metals. However, we believe that EPA has needlessly failed to comply with many of its legal obligations, particularly as regards the development of human health-based criteria on cancer risk levels of organic pollutants. We urge the Agency to reconsider its position in the matters covered by this letter (as amplified by the EOA Letter) and the CASA/Tri-TAC letter. Sunnyvale pledges its continued participation in place-based watershed management planning in the South Bay, its cooperation with the Agency in making a success of the WPI, and to an ongoing effort by the Agency and others to reach water quality goals in the South Bay. We thank you for the opportunity to comment on the proposed CTR.

Response to: CTR-021-005a

EPA disagrees with this comment.

See response to Comment CTR-058-001 and CTR-011-001a.

In regard to the comment about the results of the economic analysis which compared the potential costs of a 10-5 and 10-6 risk level, EPA believes that its methodology is sound. The fact that many of the organic pollutants that were monitored were measured below the detection limit does not necessarily mean that these facilities would not be able to comply with WQBELs based on a 10-6 risk level. Even if detection limits are improved, compliance could not be determined until the results of using the new monitoring method was completed.

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Comment ID: CTR-035-004  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.

State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-13 Risk Level  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: [INDENT]- EPA should select human health criteria for carcinogens based on the 10E-5 or 10E-4 risk levels instead of the 10E-6 level. This approach would be consistent with other EPA regulatory actions such as the Great Lakes Initiative for which EPA used the 10E-5 risk level in setting the criteria, or the national drinking water program where maximum contaminant levels are commonly developed with a risk level of 10E-4 to 10E-5. Moreover, EPA should acknowledge that there is considerable uncertainty and variability in the risk assessment process. The criteria are calculated using a model that assumes low dose linearity. When using this kind of model, the calculation of risk to several significant figures at any given low dose gives the illusion of knowledge and precision that are not really there. Thus, the actual risk to the exposed population associated with a risk level of 10E-4 may be virtually indistinguishable from a risk level of 10E-6, yet the socioeconomic impacts associated with complying with criteria promulgated using the 10E-6 risk level can be significant. Thus, EPA should reconsider the risk level used in calculating criteria in the CTR and should select a lower risk level.

Response to: CTR-035-004

EPA disagrees with this comment.

See response to CTR-058-001.

The fact that maximum contaminant levels in the drinking water program are sometimes developed with a risk level in the range of 10<sup>-4</sup> to 10<sup>-5</sup> is not a factor in setting ambient water quality criteria. Under the Safe Drinking Water Act, MCLs are set taking best available technology into account, while under the Clean Water Act, water quality criteria are set solely based on human health or aquatic protection.

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Comment ID: CTR-035-021  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-13 Risk Level  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: pp. 42175-42176 -- Reference Doses (RfDs) For non-carcinogenic human health criteria, EPA divides a "no observed effect" dose in animal studies by an uncertainty factor, which ranges from 10 to 10,000 based on various factors such as whether the data are being extrapolated from animals to humans. In addition, a modifying factor greater than 0 and less than 10 is applied to reflect the professional judgment of toxicologists. The use of such large uncertainty factors indicates that there is a large margin

of safety in the criteria, and some flexibility in the application of these factors. We recommend that EPA consider using this flexibility, for instance, to develop criteria appropriate to effluent dependent waters. In many cases, little or no fish consumption occurs and no direct use of the water for drinking water supplies may occur in effluent dependent waters; therefore the risk of human exposure is small, and it would be appropriate to use lower uncertainty and modifying factors in promulgating criteria for these water bodies.

Response to: CTR-035-021

EPA disagrees with this comment.

See response to CTR-058-001.

The comment author recommends that EPA develop criteria appropriate to effluent dependent waters. In the CTR, EPA has applied criteria on the basis of State adopted beneficial uses. As the State has not used a beneficial use category that distinguishes effluent dependent waters, there are no waters to assign a separate set of criteria. The CTR does not preclude the State from developing a special beneficial use category for effluent dependent waters should it choose that course of action. (See EPA Region 9's Interim Final "Guidance for Modifying Water Quality Standards and Protecting Effluent-Dependent Ecosystems", June 17, 1992, for guidance.)

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Comment ID: CTR-035-027

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-13 Risk Level

References:

Attachments? N

**CROSS REFERENCES**

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Comment: p. 42181 -- Risk Factors for Carcinogens EPA has calculated the human health criteria for carcinogens in the proposed CTR using a 10E-6 risk level, but invites comment on whether the criteria for carcinogens should instead be calculated using a risk level of 10E-5. We recommend that EPA consider a range of risk levels between 10E-4 and 10E-6, which we understand to be consistent with EPA's policy of allowing States to use risk levels in the range of 10E-4 to 10E-6 when adopting criteria for carcinogenic priority pollutants in water quality standards (U.S., EPA, 1994b). We do not agree with EPA's proposition to adopt a 10E-6 risk level based upon previous regulatory decisions by the State. Any new determination by the State will be subject to the legal requirements of Section 13241 of the Porter-Cologne Act and by review by the Office of Administrative Law. Thus, it is not a foregone conclusion that the State will ultimately select the 10E-6 level. Moreover, EPA should acknowledge that there is considerable uncertainty and variability in the risk assessment process. The criteria are calculated using a model that assumes low dose linearity. When using this kind of model, the calculation of risk to several significant figures at any given low dose gives the illusion of knowledge and precision that are not really there. Thus, the actual risk to the exposed population associated with a risk level of 10E-4 may be virtually indistinguishable from a risk level of 10E-6, yet the socioeconomic impacts associated with complying with criteria promulgated using the 10E-6 risk level can be significant. EPA

should therefore revise its alternative analysis for the 10E-5 risk level evaluated for the cost analysis, and reassess its conclusions. We believe this re-analysis to be necessary for EPA to adequately comply with the requirements of Executive Order 12866, the Regulatory Flexibility Act and the Unfunded Mandates Reform Act to identify and analyze alternatives to a proposed rule.

Response to: CTR-035-027

EPA disagrees with this comment.

See response to CTR-058-001. In that response EPA explained that protection of the general population at the 10-6 risk level was necessary to assure that those segments of the California population that are more highly exposed are protected at a 10-4 risk level.

EPA is unable to respond to the generic comment that "...the actual risk to the exposed population associated with a risk level of 10E-4 may be virtually indistinguishable from a risk level of 10E-6,..." when using a linear cancer risk model. The commenter has provided no supporting evidence for this assertion.

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Comment ID: CTR-040-015b

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-13 Risk Level

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES S

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Comment: RECOMMENDED MODIFICATIONS

To address our concerns, we recommend the following modifications which do not undermine the toxic pollutant control actions envisioned in EPA's economic analysis (e.g., BMPs for stormwater and source control). In fact, some of these recommendations would provide incentives for greater movement toward achieving the water quality criteria than would occur under the Rule as it is currently proposed.

II. Recommendation: Adopt human health criteria for PAHs at a 10 (-4) risk level and human health criteria for other carcinogens at risk levels that are generally achieved by municipal wastewater and stormwater dischargers.

\* As previously stated, the Sacramento Stormwater Management Program would have to expend on the order of \$260 million per year to treat stormwater, and this may not achieve the proposed criteria for PAHS, which is based on a 10 (-6) cancer risk level.

\* Under the Unfunded Mandates Reform Act, EPA must adopt the least cost alternative for complying with the CWA, unless the Administrator explains in the final rule why the least cost alternative is not adopted. As indicated in the Preamble, risk levels of 10 (-5) and 10 (-4) are acceptable under the CWA.

\* Therefore, pursuant to the spirit of the Unfunded Mandates Reform Act, EPA should adopt the PAH criteria at a 10 (-4) risk level. The same should be true for other carcinogens that present attainability problems for dischargers. Most carcinogenic constituents are not readily controllable through source control or BMPs and would generally require end-of-pipe controls to achieve significant reduction. The benefits associated with additional reduction of carcinogenic constituents are not expected to be measurable since, as acknowledged in the economic analysis, point sources are relatively minor sources of these constituents.

Response to: CTR-040-015b

See responses to CTR-058-001 and 011-001a.

Concerning comments CTR-043-006b and CTR-044-007a, the statements that neither Old Alamo Creek nor Tule Canal are "heavily fished" is not relevant to the health issue, i.e., are the people who do fish highly exposed because they are high consumers? The commentors have not provided sufficient information to evaluate either question.

The comment that the carcinogens that are asserted to be compliance problems for these two dischargers are not identified in EPA's economic analysis as a significant contributor to baseline cancer risks for recreational anglers consuming freshwater fish in California may merely reflect a lack of information on these pollutants in sample locations that were selected for the benefits analysis. The fact that no baseline risks were found for the purposes of the analysis does not mean that the risk from these pollutants do not exist anywhere in California or should not be prevented.

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Comment ID: CTR-043-006b  
Comment Author: City of Vacaville  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-13 Risk Level  
References:  
Attachments? Y  
CROSS REFERENCES C-24

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Comment: 6. EPA should adopt separate, site-specific human health criteria for Old Alamo Creek based on a 10 (-4) risk level. As previously indicated the City would have to construct costly end-of-pipe controls to comply with the human health criteria for several carcinogens. The subject criteria are based on a cancer risk level of 10 (-6). These controls would not produce a commensurate environmental benefit. At a 10 (-4) risk level, the City's discharge would not cause an in-stream exceedance of these criteria. The City does not believe Old Alamo Creek is heavily fished and therefore criteria based on a 10 (-4) risk level would likely provide greater protection than indicated by the risk level. The City notes that none of these carcinogens were identified in EPA's economic analysis as a significant contributor to baseline cancer risks for recreational anglers consuming freshwater fish in California (see Exhibit 8-9 in EPA's economic analysis).

Response to: CTR-043-006b

See responses to CTR-058-001 and 011-001a.

Concerning comments CTR-043-006b and CTR-044-007a, the statements that neither Old Alamo Creek nor Tule Canal are "heavily fished" is not relevant to the health issue, i.e., are the people who do fish highly exposed because they are high consumers? The commentors have not provided sufficient information to evaluate either question.

The comment that the carcinogens that are asserted to be compliance problems for these two dischargers are not identified in EPA's economic analysis as a significant contributor to baseline cancer risks for recreational anglers consuming freshwater fish in California may merely reflect a lack of information on these pollutants in sample locations that were selected for the benefits analysis. The fact that no baseline risks were found for the purposes of the analysis does not mean that the risk from these pollutants do not exist anywhere in California or should not be prevented.

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Comment ID: CTR-044-007a  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-13 Risk Level  
References:  
Attachments? Y  
CROSS REFERENCES C-24

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Comment: We have reviewed the proposed CTR and offer the following comments:

6. EPA should adopt separate, site-specific human health criteria for Tule Canal based on a 10 (-4) risk level. Based on effluent sampling, the City would have to construct costly end-of-pipe controls to comply with criteria for aldrin (and perhaps other carcinogens) based on a 10 (-6) risk level. These controls would not produce a commensurate environmental benefit. At a 10 (-4) risk level, the City's discharge would not cause an in-stream exceedance of these criteria in Tule Canal. The City does not believe Tule Canal is heavily fished and therefore criteria based on a 10 (-4) risk level would likely provide greater protection than indicated by the risk level. The City notes that aldrin was not identified in EPA's economic analysis as a significant contributor to baseline cancer risks for recreational anglers consuming freshwater fish in California (see Exhibit 8-9 in EPA's economic analysis).

Response to: CTR-044-007a

See responses to CTR-058-001 and 011-001a.

Concerning comments CTR-043-006b and CTR-044-007a, the statements that neither Old Alamo Creek nor Tule Canal are "heavily fished" is not relevant to the health issue, i.e., are the people who do fish highly exposed because they are high consumers? The commentors have not provided sufficient information to evaluate either question.

The comment that the carcinogens that are asserted to be compliance problems for these two dischargers

are not identified in EPA's economic analysis as a significant contributor to baseline cancer risks for recreational anglers consuming freshwater fish in California may merely reflect a lack of information on these pollutants in sample locations that were selected for the benefits analysis. The fact that no baseline risks were found for the purposes of the analysis does not mean that the risk from these pollutants do not exist anywhere in California or should not be prevented.

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Comment ID: CTR-049-003  
Comment Author: Watereuse Assoc. of California  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-13 Risk Level  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: With respect to other criteria proposed for adoption in the draft CTR, we recommend that USEPA:

1 . Adopt human health criteria for carcinogens which are based on the 10E-5 or 10E-4 risk levels instead of the 10E-6 level. (Based on all the conservative assumptions included in the calculation of the criteria, there is significant uncertainty in the numbers, which may translate to negligible risk in using the lower risk levels. This draft CTR should factor in this uncertainty into the risk assessment along with population exposure when calculating risk and appropriate human health criteria);

Response to: CTR-049-003

EPA disagrees with this comment.

See response to CTR-058-001.

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Comment ID: CTR-050-006  
Comment Author: Sonnenschein Nath & Rosenthal  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org: American Petrol  
Document Date: 09/26/97  
Subject Matter Code: C-13 Risk Level  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: III. The Acceptable Risk Level Should be greater than 10E-6.

EPA has proposed that the criteria for carcinogens should be based on an acceptable risk level of 10E-6.

However, the Agency has also, at the request of the State of California, requested comment on an alternative risk level of 10E-5. (62 Fed. Reg. at 42181). The 10E-5 figure is recognized and utilized by EPA in various Clean Water Act guidance documents as well as in other Agency programs: Moreover, in the most comprehensive development and implementation of water quality standards that the Agency has ever conducted - the Great Lakes Initiative (GLI) -EPA used this risk level in setting the criteria. Also, every State in Region 5 has followed the EPA policy and used 10E-5 as the acceptable risk level in setting water quality standards as part of their GLI rules. EPA should continue that policy in this rulemaking.

Response to: CTR-050-006

EPA disagrees with this comment.

See response to CTR-058-001.

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Comment ID: CTR-052-003a

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: SC

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-13 Risk Level

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES E-01

E-02

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Comment: However, the Authority is greatly disappointed that EPA chose not to follow the consensus recommendations for many of the most significant issues, including the methodology used for the EA and the choice of using the most conservative carcinogenicity factor for organic pollutants.

Response to: CTR-052-003a

EPA disagrees with this comment.

See response to CTR-058-001.

The risk level chosen for the CTR is not "the most conservative carcinogenicity factor for organic pollutants."

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Comment ID: CTR-054-007

Comment Author: Bay Area Dischargers Assoc.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-13 Risk Level

References:

Attachments? Y

**CROSS REFERENCES**

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Comment: Human health criteria for carcinogens should be adopted at a 10 (-5) risk level at least for San Francisco Bay waters. BADA's attainability analyses shows that adoption of criteria for carcinogens based on a 10 (-6) risk level would result in significant costs without improving the present level of compliance in Bay waters. At a 10 (-6) risk level, two BADA agencies could be faced with adding carbon adsorption facilities at a total annual costs of \$56 million per year (to achieve effluent limitations for aldrin, heptachlor and several PAHS). At a 10 (-5) risk level, carbon adsorption facilities would be unnecessary at these BADA agency plants. The cost savings would be significant, and the present high level of compliance would remain unchanged.

Response to: CTR-054-007

EPA disagrees with this comment.

See response to CTR-058-001.

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Comment ID: CTR-055-001

Comment Author: USS-POSCO Industries

Document Type: Specific Industry

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-13 Risk Level

References:

Attachments? Y

**CROSS REFERENCES**

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Comment: UPI requests the EPA use a Cancer Risk Level at 10E-5 (1 in 100,000) in the subject regulation.

The U.S. Environmental Protection Agency (EPA) and the State of California (State) have requested comment on the adoption of a 10E-5 carcinogenic risk factor (page 42181) in lieu of the proposed 10E-6 factor. The EPA criteria documents for priority toxic pollutants do not recommend a specific carcinogenic risk factor, but rather a range of risk factors is recommended. The EPA is proposing a California rule that meets Clean Water Act (CWA) section 304(a) minimum. Since a 10E-5 carcinogenic risk factor meets CWA criteria as determined by the EPA, a 10E-5 carcinogenic risk factor is appropriate for the subject Section 131.38. The State should have the authority to use a 10E-5 carcinogenic level. The State needs the option of developing regulatory standards to protect the people and the environment in California in a manner which considers local conditions within the state.

For the above reasons, UPI requests the EPA promulgate a 10E-5 carcinogenic risk factor (1 in 100,000) in the subject regulation.

Response to: CTR-055-001

EPA disagrees with this comment.

See response to CTR-058-001.

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Comment ID: CTR-056-012

Comment Author: East Bay Municipal Util. Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: C-13 Risk Level

References: Letter CTR-056 incorporates by reference letter CTR-054

Attachments? N

CROSS REFERENCES

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Comment: Third, regarding the criteria being proposed for adoption in the draft CTR, EBMUD recommends that EPA should:

\* Select human health criteria for carcinogens based on the 10E-5 or more appropriate risk level instead of the 10E-6 level being proposed. Based upon the conservative risk assumptions included in the calculation of criteria, there is sufficient uncertainty in the numbers to permit the use of a less restrictive value than 10E-6. EBMUD believes that by using the "one in a million" risk assumption an undue attainability burden is being placed on dischargers to meet ultra-low water quality criteria for very little gain in risk reduction. EPA should factor the uncertainty of the numbers into the risk assessment along with the population exposure when calculating risk and appropriate human health criteria.

Response to: CTR-056-012

EPA disagrees with this comment.

See response to CTR-058-001. For an additional response, see also the response to CTR-003-003.

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Comment ID: CTR-057-005

Comment Author: City of Los Angeles

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-13 Risk Level

References:

Attachments? N

CROSS REFERENCES

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Comment: Risk Level

The EPA is strongly encouraged to consider the use of the 10E-5 carcinogenic human health risk

criterion as a baseline for all priority-pollutant criteria that can be adjusted as appropriate when conditions merit a change. The 10E-6 criterion, which itself already appears to serve as such a baseline, is too problematic for this purpose in view of the number of priority constituents which represent immediate compliance problems under the proposed Rule. The attached tables compare our chances for compliance with the proposed Rule under the two factors for our three facilities. We believe that the problems associated with the 10E-6 factor primarily reflect a difficulty with criteria compliance rather than an indication of environmental impact.

In addition, we believe that cost-benefit ratios of mitigation efforts based on a 10E-5 risk factor are considerably more justifiable than 10E-6 in view of the diminishing returns most POTWs would experience in terms of net environmental cost-benefit. For example, years of toxicity testing of Tillman effluent has not established any relationship between effluent lindane and/or DDT levels and aquatic survivability, yet further reduction of these pollutants below currently-observed levels does not justify the enormous required treatment costs. By comparison, the cost effectiveness of best-management practices for non-point sources is attractive, but the trade-off in terms of immediate benefit is a significant limitation- These observations imply that the 10E-5 risk factor should also be applicable on a constituent-specific basis, and we urge the EPA to consider this application as well.

Another factor to consider in setting the risk criterion involves pollutant source-controllability. For example, DDT is a banned pesticide that is ubiquitous in the environment and also a pass-through pollutant in conventional treatment processes what purpose does a 10E-6 factor serve when it cannot be controlled by either point or non-point sources? If treated, where and how are the wastes disposed? The provenance and ultimate fate of such pollutants should be considered as part of a more holistic approach to their control, and the establishment of overly-stringent risk criteria does not accomplish that.

Response to: CTR-057-005

EPA disagrees with this comment.

See response to CTR-058-001.

The comment author cites "years of toxicity testing of Tillman effluent" as evidence that effluent levels of lindane and/or DDT do not need to be further reduced . However, this comment overlooks the fact that these two pollutants are highly bioaccumulative, and standard toxicity tests, because of their short duration, do not account for most bioaccumulation. Thus, if anything, a 10-6 risk level is particularly appropriate for bioaccumulative pollutants.

EPA disagrees that a factor to consider in setting of risk criterion should involve pollutant source controllability. First, the commenter has provided no evidence supporting the assertion that either point or nonpoint sources cannot be controlled. EPA also disagrees that it should set criteria for pollutants that are difficult to control (which have been banned but remain persistent in the environment) at a higher risk level than other pollutants. The Clean Water Act requires that criteria be protective of designated uses. While EPA has discretion in setting risk levels appropriate to protect uses, EPA believes that it is appropriate to base the risk level on nationally appropriate risk levels and the risk level established by the State for the general population. (See the response to Comment CTR-058-001.) By doing so, EPA will be providing an acceptable measure of protection to all exposed subpopulations. If it is not feasible to attain a designated use due to human caused conditions or if sources of pollution prevent the attainment of the use and cannot be remedied, EPA regulations allow the State to remove the designated use if it is not an existing use. This approach allows for regulatory relief where attainment is infeasible while avoiding the lowering of water quality protection to people who live in areas where it may be feasible to

attain the criteria at a risk level of 10<sup>-6</sup>.

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Comment ID: CTR-058-001

Comment Author: Western States Petroleum Assoc

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-13 Risk Level

References:

Attachments? Y

CROSS REFERENCES

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Comment: We appreciate the care that EPA has given to this proposal and especially the attempt to base the proposal on good science. Although there are significant improvements in the proposal, there are several issues of concern to WSPA. We are especially concerned that EPA has chosen to base the proposal on a human health risk level of 1x10<sup>-6</sup> while other environmental management programs administered by EPA or by California regulatory agencies have based decisions on risk levels of 1x10<sup>-5</sup> and above. EPA has not justified this overly cautious and potentially expensive approach. Our comments are included in the attachment to this letter.

1. Acceptable Risk Levels. WSPA opposes use of a 1x10<sup>-6</sup> risk level as a trigger level for regulatory action.

EPA has historically considered health risks above 1x10<sup>-6</sup> to be adequately protective of human health (see, e.g., 40 CFR 42176 in this rulemaking and review articles by Travis et al., *Environ. Science Tech.* 21(5): 415-420, 1987 and Rodricks et al., *Toxicol. Pharmacol.* 7: 307-320, 1987). Yet, "EPA is proposing criteria that protect at an incremental cancer risk level of one in a million (1x10<sup>-6</sup>) for all priority toxic pollutants regulated as carcinogens" [62 FR 42181, subpart f]. EPA apparently bases this decision on what it believes to be the state's historical policy, although adequate justification for the target risk level selected is not provided.

EPA is overlooking an overwhelming consensus of state and national-level policy which indicates that, in reality a target risk level of 1x10<sup>-6</sup> is not commonly applied in developing regulatory levels. For example, in the most comprehensive rulemaking on development and implementation of water quality standards that EPA has ever conducted -- the Great Lakes Initiative -- EPA used a target risk level of 1x10<sup>-5</sup> in setting the criteria. Also, every state in Region V has followed EPA policy and used 1x10<sup>-5</sup> as the acceptable risk level in setting water quality standards as part of their GLI rules.

EPA's National Contingency Plan codifies 1x10<sup>-4</sup> to 1x10<sup>-6</sup> as the target acceptable risk range for evaluating hazardous waste sites under CERCLA. EPA has selected and promulgated a single risk level of 1x10<sup>-5</sup> in the Hazardous Waste Management System Toxicity Characteristics Revisions [55FR 11798-11863]. In so doing, EPA notes that "The chosen risk level of 10<sup>-5</sup> is at the midpoint of the reference risk range for carcinogens (10<sup>-4</sup> to 10<sup>-6</sup>) generally used to evaluate CERCLA actions.". EPNs benzene waste NESHAPs used 10<sup>-5</sup> and drinking water MCLs are commonly associated with acceptable risk levels that exceed 1x10<sup>-6</sup>. OSHA's recently proposed procedures for developing risk-based Permissible Exposure Limits (PELs) are based on acceptable risk levels of 1x10<sup>-3</sup> to 1x10<sup>-4</sup>.

In California, state agencies commonly rely on target risk levels above  $1 \times 10^{-6}$  for setting regulatory action levels. Cal-EPA, including the DTSC, the SWRCB and the RWQCBs routinely set cleanup levels for remediation projects based on a target risk of  $1 \times 10^{-5}$ . The air quality management districts charged with administering the California Air Toxics "Hot Spots" Program under AB2588 commonly rely on a  $1 \times 10^{-5}$  target risk level for risk management purposes. California's proposed revision to the hazardous waste classification system is also similarly based on a  $1 \times 10^{-5}$  risk level. California's Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) established a no significant risk level of  $1 \times 10^{-5}$  for evaluating potential exposures of the general population to carcinogenic chemicals.

Reliance on a single target risk level of  $1 \times 10^{-6}$  for setting water quality criteria is now mostly an historical artifact. In reality, even when the Food and Drug Administration originally proposed that a  $1 \times 10^{-6}$  target risk level be used to set safety standards in the 1970s, this level was clearly meant to be a de minimis level representing risks that are so small as to be of negligible concern. In the interest of responsible public policy, EPA's target risk level should reflect an enlightened understanding of the uncertainty and variability inherent in the risk assessment process gained since that time. In addition, given that the background cancer risk in the U.S. is now about 30%, EPA should recognize that a risk level of 0.30001, or for that matter 0.3001, is virtually indistinguishable from a risk level of 0.300001. By contrast, the socioeconomic impacts associated with the overly conservative reliance on a  $1 \times 10^{-6}$  risk level could be staggering.

Response to: CTR-058-001

EPA disagrees with this comment.

EPA's section 304(a) criteria guidance documents for priority toxic pollutants that are based on carcinogenicity present concentrations for upper bound risk levels of 1 excess cancer per 100,000 people ( $10^{-5}$ ), per 1,000,000 people ( $10^{-6}$ ), and per 10,000,000 people ( $10^{-7}$ ). However, the criteria documents do not recommend a particular risk level as EPA policy. EPA uses a  $10^{-6}$  risk level in establishing human health criteria guidance because it believes that a  $10^{-6}$  risk level is an appropriate level of risk for the general population. This risk level is used by a majority of states and Tribes.

Subpopulations within a state may exist, such as subsistence anglers who as a result of greater exposure to a contaminant, are at greater risk than the assumed 70 kilogram person eating 6.5 grams per day of maximally contaminated fish and shellfish and drinking 2.0 liters per day of drinking water with pollutant levels meeting the water quality criteria.

When EPA promulgates criteria as regulations, EPA generally follows the policies of the affected state. In this case, California has articulated a policy choice of  $10^{-6}$  for the general population. By establishing rules at the  $10^{-6}$  risk level, EPA applies a risk management policy which ensures protection for all exposed population groups (Draft Water Quality Criteria Methodology: Human Health, EPA 822-Z-98-001, August 1998, Appendix II, page 72). EPA acknowledges that at any given risk level for the general population, those segments of the population that are more highly exposed face a higher relative risk. For example, if fish are contaminated at a level permitted by criteria derived on the basis of a risk level of  $10^{-6}$ , individuals consuming up to 10 times the assumed fish consumption rate would still be protected at a  $10^{-5}$  risk level. Similarly individuals consuming 100 times the general population rate would be protected at a  $10^{-4}$  risk level. EPA therefore believes that protection at the  $10^{-6}$  risk level is a reasonable risk management decision protective of designated uses under the CWA. While outside the scope of this rule, EPA notes that states and Tribes, however, have the discretion to adopt water quality criteria that result in a higher risk level (e.g.,  $10^{-5}$ ). EPA expects to approve such criteria if the state or

Tribe has identified the most highly exposed subpopulation within the state or Tribe, demonstrates the chosen risk level is adequately protective of the most highly exposed subpopulation, and has completed all necessary public participation.

This demonstration has not happened in California. Further, the information that is available on highly exposed subpopulations in California supports the need to protect the general population at the 10<sup>-6</sup> level. California has cited the Santa Monica Bay Seafood Consumption Study as providing the best available dataset for estimating consumption of sport fish and shellfish in California for either marine or freshwater sources (Chemicals in Fish Report No. 1: Consumption of Fish and Shellfish in California and the United States, Final Draft Report, July 1997). Consumption rates of 21g/day, 50 g/day, 107 g/day, and 161 g/day for the median, mean, 90th, and 95th percentile rates, respectively, were determined from this study. Additional consumption of commercial species in the range of approximately 8 to 42 g/day would further increase those values. Clearly the consumption rates for the most highly exposed subpopulation within the State exceeds 10 times the 6.5 g/day rates used in the CTR. Therefore, use of a risk level of 10<sup>-5</sup> to protect the general population would not be sufficient to protect the most highly exposed population in California at a 10<sup>-4</sup> risk level. On the other hand, even the most highly exposed subpopulations cited in the California study do not have consumption rates approaching 100 times the 6.5 g/day rate used in the CTR. The use of the 10<sup>-6</sup> risk level to protect median level consumers does not subject these subpopulations to risk levels as high as 10<sup>-4</sup>.

EPA believes it would be reasonable to conclude that carcinogens that bioaccumulate, particularly given the exposure of fishermen to such carcinogens, may justify site-specific criteria that result in more protective risk level than 10<sup>-6</sup> for the average fish consumer. EPA has generally supported such decisions when adequate data are available. In this rulemaking, EPA has adopted a reasonable risk level to protect all of California's inland waters and enclosed bays and estuaries for consumption of fish and drinking water.

EPA believes its decision to establish a 10<sup>-6</sup> risk level for the CTR is also consistent with EPA's policy in the NTR and GLI to select the risk level that reflect the policies or preferences of Clean Water Act programs in the affected states. CA adopted standards for priority toxic pollutants for its ocean waters in 1990 using a 10<sup>-6</sup> risk level to protect human health (California Ocean Plan, 1990). In April 1991, and again in November 1992, CA adopted standards for its inland waters and enclosed bays and estuaries in its ISWP and EBEP using a 1x10<sup>-6</sup> risk level. To be consistent with CA's WQS, EPA used a 10<sup>-6</sup> risk level for CA in the NTR at 57 FR 60867/3. CA has continued using a 10<sup>-6</sup> risk level to protect human health for its standards that were not withdrawn with the ISWP and EBEP. The most recent expression of risk level preference is contained in the Draft Functional Equivalent Document, Amendment of the Water Quality Control Plan for Ocean Waters of California, October 1998, where staff recommended maintaining a consistent risk level of 10<sup>-6</sup> for the human health standards that they were proposing to revise. See also the discussion in responses to CTR-002-002a and CTR-002-005a.

The citation of programs that occasionally allow a risk level as high as 10<sup>-4</sup> under specific circumstances does not prove to be inconsistent with protection of the general population at the 10<sup>-6</sup> level recognizing that more highly exposed sub-populations such as ethnic or economically disadvantaged populations may face an excess risk level approaching 10<sup>-4</sup>.

There are several differences between the guidelines for the derivation of human health criteria contained in the Great Lakes Water Quality Guidance (the Guidance) and the California Toxics Rule (CTR) that make a 10<sup>-5</sup> risk factor appropriate for the Guidance, but not for the CTR. These differences result in criteria developed using the 10<sup>-5</sup> risk factor in the Guidance being at least as stringent as criteria derived under the CTR using a 10<sup>-6</sup> risk factor. The relevant aspects of the Guidance include:

- \* targeting of sensitive subgroups of the population, such as people who routinely eat fish caught in the Great Lakes, in assessing risk (the CTR targets the population in general)
- \* use of fish consumption rates that are considerably higher (because of the targeted subgroup) than fish consumption rates for the CTR
- \* use of bioaccumulation factors rather than bioconcentration factors in estimating exposure, considerably increasing the dose of carcinogens to sensitive subgroups
- \* use of additivity of effects of mixtures of both carcinogenic and noncarcinogenic pollutants.

This combination of factors increase the calculated carcinogenic risk substantially under the Guidance (the combination would generally be more than one order of magnitude), making a lower overall risk factor acceptable. The Guidance risk factor provides, in fact, criteria with at least the same level of protection against carcinogens as criteria derived with a higher risk factor using the CTR. A lower risk factor for the CTR would not be appropriate absent concomitant changes in the derivation procedures that provide equivalent risk protection.

Remediation efforts and OSHA PELs were cited by the comment author as activities allowing risk levels higher than 10<sup>-6</sup>. These activities are site-specific and have far less impact beyond a very local area as contrasted to WQS which, in combination with existing California WQS providing protection of the general population at the 10<sup>-6</sup> level, will provide consistent protection to the statewide population. [See the reference to HHM Notice above].

EPA disagrees that reliance on a 10<sup>-6</sup> target risk level for setting water quality criteria is now mostly a historical artifact. The Food Quality Protection Act of 1996 (FQPA) amended the Federal Food, Drug, and Cosmetic Act to prohibit EPA from issuing tolerances for pesticide residues in or on food unless the agency determined that there is "reasonable certainty" that the residues will result in "no harm." The legislative history of FQPA indicated Congressional support for EPA's view that reasonable certainty of no harm would be met when a non-threshold risk is below a 10<sup>-6</sup> level.

EPA believes that comparing the "background cancer risk in the U.S." (an aggregate risk combining the effect of all causes of cancer) with the excess cancer risk from a single toxic pollutant in water is not appropriate because they are not comparable measures. The comment author's argument does not lend support for raising the risk level specified in this rulemaking. The purpose of the CWA is to protect waters (in this case for the various human uses) irrespective of the cancer risk derived from other sources.

Finally, EPA is unable to respond to the author's assertion of "staggering" socioeconomic impacts because it is provided without supporting evidence (see response to CTR-005-007). EPA's Economic Analysis indicates that lowering the risk level from 10<sup>-5</sup> to 10<sup>-6</sup> would cause only a negligible increase in compliance costs (Economic Analysis of the California Toxics Rule, p. A-2). In any case, under the Clean Water Act, EPA must establish scientifically based criteria that protect designated uses. This requirement overrides any consideration of socioeconomic impacts. The Clean Water Act does allow consideration of socioeconomic impacts in decisions to remove a designated use which is not an existing use.

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Comment ID: CTR-060-016  
Comment Author: San Diego Gas and Electric  
Document Type: Electric Utility  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-13 Risk Level  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: PROVISIONS SDG&E DOES NOT SUPPORT

As described in the following comments SDG&E does not support the following provisions:

\* Health risk factor - The preamble to the rule (see 62 Fed. Reg. at 42,181, Col. 3) states that the cancer risk level used to calculate the criteria is 1 excess cancer case per 1,000,000 people. The State of California voters approved an initiative in 1986 "The Safe Drinking Water and Toxic Enforcement Act of 1986" ("Prop. 65") to address concerns over exposures to toxic chemicals. Prop. 65 defines the "no significant risk" level as follows:

"For chemicals assessed in accordance with this section, the risk level which represents no significant risk shall be one which is calculated to result in one excess case of cancer in an exposed population of 100,000, assuming lifetime exposure at the level in question,...".(\*15)

The criteria proposed in the rule should be recalculated to reflect a one excess case of cancer in an exposed population of 100,000 risk factor, which would be consistent with an existing risk factor which is acceptable to the voters in the State of California.

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(\*15) Subsection 12703 (b) at CCR Title 22, Division 2, Part 2, Subdivision 1, Chapter 3, Article 7.

Response to: CTR-060-016

EPA disagrees with these comments.

See response to CTR-058-001.

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Comment ID: CTR-066-011  
Comment Author: Delta Diablo Sanitation Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-13 Risk Level  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: The areas with which we find concerns and the requested changes include the following:

\* With respect to the criteria proposed for adoption in the draft CTR, we believe EPA should select human health criteria for carcinogens based on the 10E-5 or 10E-4 risk levels instead of the 10E-6 level. Based on all the conservative assumptions embedded in the calculation of the criteria, there is significant uncertainty in the numbers, which may translate to negligible risk in using the lower risk levels. EPA should factor this uncertainty into the risk assessment along with population exposure when calculating risk and appropriate human health criteria.

Response to: CTR-066-011

EPA disagrees with this comment.

See response to CTR-058-001.

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Comment ID: CTR-081-003  
Comment Author: West County Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-13 Risk Level  
References:  
Attachments? N  
CROSS REFERENCES

Comment: \* EPA should select human health criteria on levels other than the 10E-6 level, based on the conservative assumptions included in the calculation of the criteria.

Response to: CTR-081-003

EPA disagrees with this comment.

See response to CTR-058-001.

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Comment ID: CTR-082-004  
Comment Author: City of Burbank  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-13 Risk Level  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: The subject rule has a significant impact on our facility discharge and the citizens of the City. We therefore present the following comments for your consideration to re-open the comment period for this rule in order to facilitate a more complete review by public and in particular by those in the POTW community:

\* Recommend USEPA use human health criteria for carcinogens based on the  $10^{*-5}$  or  $10^{*-4}$  instead of the  $10^{*-6}$  level. It is important to note that all conservative assumptions included in the calculation of the EPA proposed criteria there is a significant uncertainty in the numbers, which may translate to negligible risk in using the lower risk levels. EPA should factor in this uncertainty into the risk amount along with population exposure when calculating risk and appropriate human factor.

Response to: CTR-082-004

EPA disagrees with this comment.

See response to CTR-058-001.

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Comment ID: CTR-085-013

Comment Author: Camarillo Sanitary District

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-13 Risk Level

References:

Attachments? N

**CROSS REFERENCES**

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Comment: The District supports the following positions of CASA and SCAP where changes need to be made in the proposed California Toxics Rule:

\* With respect to the criteria proposed for adoption in the draft California Toxics Rule, the EPA should select human health criteria for carcinogens based on the  $10E-5$  or  $10E-4$  risk level instead of the  $10E-6$  level. Based on all the conservative assumptions included in the calculations of the criteria, there is significant uncertainty in the number, which may translate to negligible risk in using the lower risk levels. The EPA should factor this uncertainty into the risk assessment, along with population exposure, when calculating risk and appropriate human health criteria.

Response to: CTR-085-013

EPA disagrees with this comment.

See response to CTR-058-001.

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Comment ID: CTR-090-013

Comment Author: C&C of SF, Public Util. Commis.  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-13 Risk Level  
References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054  
Attachments? Y  
**CROSS REFERENCES**

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Comment: 2. The Cancer Potency Risk Factor Should Be 10E-5 EPA should not assume that 10E-6 is California's preferred risk level for estuarine and inland surface waters. The action adopting that risk level was invalidated by the courts specifically on the grounds that the SWRCB did not follow the required procedures of the Water Code section 13241. In fact, the State of California and the voters of California have made a clear policy statement about cancer risk factors when they enacted in 1986, the Safe Drinking Water and Toxic Enforcement Act, known as Proposition 65. This Proposition established significant restrictions on the use of toxicants based on a cancer risk level of 10E-5. This voter approved cancer risk is far more valid and should be the guide to the EPA for the criteria.

The use of the 10E-6 as a risk level for human health will cause some constituents to be to considered problem pollutants when in fact no problem exists based on site specific data and bioaccumulation data. This high level of risk compounds the very conservative assumptions and other safety factors already within the formula for the criteria.

We urge the EPA to revise the cancer risk level to 10-5. Until such time that a source of problem toxicants are better identified, interim CRFs of less than 10E-5 would be appropriate for some carcinogens (more discussion in the detailed comments)

Response to: CTR-090-013

EPA disagrees with this comment.

See response to CTR-058-001.

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Comment ID: CTR-092-015  
Comment Author: City of San Jose, California  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-13 Risk Level  
References: Letter CTR-092 incorporates by reference letter CTR-035  
Attachments? Y  
**CROSS REFERENCES**

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Comment: We want to highlight our technical concern with one aspect of the Economic analysis in the text of this letter - EPA's proposal to protect at an incremental cancer risk level of one in one million (10E-6) for all priority toxic pollutants regulated as carcinogens. The CTR states that "EPA recommends

that states consider minimum risk levels in the range of 10E-4 to 10E-6 for carcinogenic priority pollutants to protect public health and welfare." The City supports EPA's policy of allowing States the flexibility to use a range of cancer risk levels in their derivation of criteria for carcinogenic priority pollutants, however the City believes that the EPA has the same obligation in promulgating the CTR. The City recommends that risk levels be determined dependent upon the degree of scientific uncertainty inherent with the appropriate criterion. Stringency of risk levels should be established based upon the degree of significance, that assumptions and uncertainties drive the criterion derivation process.

Response to: CTR-092-015

EPA disagrees with this comment.

See response to CTR-058-001.

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Comment ID: CTR-096-008  
Comment Author: City of Modesto  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-13 Risk Level  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Thank you for the opportunity to comment on the proposed California Toxics Rule. The City's comments are related to five main concepts:

Specifically, the City submits the following comments:

G. Further, with respect to the criteria proposed in the draft CTR, EPA should select human health criteria for carcinogens based on 10E-5 or 10E-4 risk levels instead of the 10E-6 level. Based on all the conservative assumptions included in the calculation of the criteria, there is significant uncertainty in the numbers, which may translate to negligible risk in using the lower risk levels. EPA should factor this uncertainty into the risk assessment along with population exposure when calculating risk and appropriate human health criteria.

Response to: CTR-096-008

EPA disagrees with this comment.

See response to CTR-058-001.

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Comment ID: CTRH-001-026  
Comment Author: Michelle Pla  
Document Type: Public Hearing  
State of Origin: CA

Represented Org: S.F. Public Utilities Com

Document Date: 09/17/97

Subject Matter Code: C-13 Risk Level

References:

Attachments? N

CROSS REFERENCES

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Comment: In your proposed rule you said that 10 to the minus 6 is the appropriate cancer risk factor, but you're asking for comments on the 10 to the minus -- to the -- 10 to the minus 5. And I would like to point out that although the state originally in their guidelines for effluents had 10 to the minus 6, that was one of the grounds for the court case which overthrew that, those plans, in that they did not do a thorough analysis. The 10 to the minus 6, we will be giving you more information in written comments why we believe that 10 to the minus 5 is an appropriate risk level.

Response to: CTRH-001-026

EPA disagrees with this comment.

See response to CTR-058-001.

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Comment ID: CTRH-001-046

Comment Author: Charles Batts

Document Type: Public Hearing

State of Origin: CA

Represented Org: Bay Area Dischargers Assc

Document Date: 09/17/97

Subject Matter Code: C-13 Risk Level

References:

Attachments? N

CROSS REFERENCES

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Comment: We would ask you to review scientific carcinogenic criteria with concern for special pathways that disclose how carcinogenics in aquatic runoff and wastewater interact with human health.

Presently the risk factor of 10 to the minus 6 is heaped on an already overly conservative criteria. The use of 10 to the minus 4 or 10 to the minus 5 have been incorporated by EPA in many other risk analysis plans that they've done, including the Safe Drinking Water Act and the Great Lakes Initiative,

Also in this area, greater study should be done to look at individual organic compounds to see what the cost/benefit ratio is and see if there is a way for removal of these specific organic compounds by source control or pollution prevention techniques.

Response to: CTRH-001-046

EPA disagrees with this comment.

See response to CTR-058-001.

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Comment ID: CTRH-002-013  
Comment Author: Lisa Ohlund  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Alliance of So. CA POTWs  
Document Date: 09/18/97  
Subject Matter Code: C-13 Risk Level  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: We'd like to see the EPA reexamine risk level for carcinogens in the human health criteria, taking into consideration the actual change in risk to the exposed population for each constituent and balancing that with the potential cost of compliance.

Response to: CTRH-002-013

EPA disagrees with this comment.

See response to CTR-058-001.

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Comment ID: CTRH-002-023  
Comment Author: John Behjan  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: City of Simi Valley  
Document Date: 09/19/97  
Subject Matter Code: C-13 Risk Level  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: MR. BEHJAN: Good afternoon. My name is John Behjan, B-e-h-j-a-n. My business address is 500 West Los Angeles Avenue, Simi Valley, California 93065.

Basically, I want to go over the CTR's proposed numerical objective for human health risk -- human health criteria which is based on human health risk assessment of 10(-6). That is basically for the cases that are consumable water for fish.

The previous speaker mentioned about waterways and this is where I'm coming from. We recommend EPA's consideration of another factor than the 10(-6). EPA does provide that, the flexibility. And this is a very appropriate application, perhaps in for -- because that would reduce the objectives more -- make them more difficult than for a lot of fish in Southern California who are discharging it into water.

Thank you.

Response to: CTRH-002-023

EPA disagrees with this comment.

See response to CTR-058-001.

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Subject Matter Code: C-14 Fish or Water Consumption

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Comment ID: CTR-002-002a

Comment Author: Comm. for a Better Environment

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-14 Fish or Water Consumption

References:

Attachments? Y

CROSS REFERENCES C-17a

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Comment: I. TOXIC POLLUTANTS THREATEN PUBLIC HEALTH AND SAN FRANCISCO BAY.

Toxic pollution causes harm in San Francisco Bay. Species of bivalve shellfish, plankton and phytoplankton that are especially vulnerable to toxic trace elements such as copper are decimated in its southern reach though they thrive in comparable estuaries with less metals pollution.(\*1) (\*2) Mounting evidence suggests its sediment is toxic to some aquatic life.(\*3) Extensive research strongly suggests that PCBs and PAHs released to the Bay negatively effect reproduction in starry flounder. (\*4) Reproductive effects are also correlated with PCBs in Bay cormorant eggs, Bay harbor seals have PCBs levels twice those associated with immunotoxicity and a disease epidemic that decimated a European population of this species.(\*5) Health advisories are in effect because dioxin, PCBS, mercury, chlordane, DDT, dieldrin, and selenium contaminate Bay food resources eaten by the public.(\*6) (\*7)

Public health threats from toxics in the food chain are of particular concern. A recent count found approximately 270,000 fishing licenses were issued to Bay Area residents. Surveys by CBESAFER!, the Save San Francisco Bay Association, and the Asian Pacific Environmental Network show that many people fish the Bay regularly to supplement their families' diet, that some people eat up to a maximum of a pound of fish per day, and that the majority of those who eat their catch regularly are people of color. [See attachment (\*8)] A pound of fish per day is about 480 oz./month, sixty times the 8 oz./month "safety" cutoff for cancer and slow learning in the state's advisory.(\*6)

In addition to these severe environmental health and justice problems, pollutant monitoring of the Bay is far from comprehensive, and undetected problems are likely. Indeed, EPA acknowledged that designated uses of the Bay are threatened or impaired by toxic pollutants when it named the Bay as a "toxic hot spot" under Section 304(l) of the Clean Water Act.(\*9)

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(\*1) U.S. Geological Survey, 1992. Letter from Samuel N. Luoma, Ph.D., to Seven R. Ritchie, Executive Officer, Regional Water Quality Control Board. August 24, 1992.

(\*2) Karras, 1992. Comparison of copper in waters of the southern reach of San Francisco Bay and ten other estuaries. Communities for a Better Environment (CBE). July, 1992.

(\*3) San Francisco Estuary Institute, 1997. Regional monitoring program for trace substances 1995 annual report. Excerpts including pages 105, 3, and A-17 through A-24 showing the percentage of sediment bioassays (larval bivalve and Eohaustorius tests) that were toxic (less than 80% of control

value) at RMP stations from 1991-1996, sampling stations, and dissolved and total metal, and PAH concentrations in San Francisco Bay waters.

(\*4) Spies et al., (2 papers), 1988: Effects of organic contaminants on reproduction of the starry flounder *Platichthys stellatus* in San Francisco Bay, I., Hepatic contamination and mixed-function oxidase (MFO) activity during the reproductive season. *Marine Biology* 98: 181-189; and II. Reproductive success of fish captured in San Francisco Bay and spawned in the laboratory. *Marine Biology* 98: 191-200. Excerpt including abstracts.

(\*5) Kopec and Harvey, 1995, Toxic pollutants, health indices, and population dynamics of harbor seals in San Francisco Bay, 1989-1992. Moss Landing Marine Laboratories Technical Publication 96-4. ISSN 1088-2413. October, 1995. Excerpt regarding PCBs levels as compared to European seals in which a disease epidemic and population crash was observed.

(\*6) Cal. EPA, 1994. Health advisory on catching and eating fish, interim sport fish advisory for San Francisco Bay. December, 1994.

(\*7) California Department of Health Services, 1994. Health Warnings, Contained in the 1994 California Hunting Regulations for Resident and Migratory Game Birds issues by the state's Fish and Game Commission, Sacramento, Calif. Excerpt including health warning for selenium.

(\*8) Previously unpublished data from a 1993-4 survey of 500 anglers using South and Central San Francisco Bay by communities for a Better Environment-SAFER!; Save San Francisco Bay Association, 1995 (excerpt); West, 1992; West et al., 1992; Peterson et al., 1994; and USEPA, 1994. (excerpt of a draft report discussing and citing work by EPA, Wolfe and Walker (1987), Svensson (1991) and others. Includes analysis of the evidence..

(\*9) EPA, 1990. Decision of the United States Environmental Protection Agency on listing under section 304(l) of the Clean Water Act regarding the state of California. Excerpt including pages listing San Francisco Bay waters as a "toxic hot spot."

Response to: CTR-002-002a

See response to CTR-001-002.

EPA acknowledges the impacts of pollution in the San Francisco Bay. EPA believes that the intake rate of 6.5 grams/day is adequately protective of the general population of fish consumers over the course of a lifetime. The fish intake rate of 6.5 gm/day is from a national, 30-day survey - the National Purchase Diary (NPD), based on an empirical distribution, where 6.5 gm/day represents the average value for the general population. According to the NPD, which was based on over 25,000 individual respondents, 94 percent of the survey respondents reported that they ate fish. Therefore, EPA believes that 6.5 gm/day is an appropriate basis for characterizing the general population. EPA understands that fish intake patterns vary and that there are population groups that consume significantly greater amounts than the overall population.

For this regulation, the promulgated criteria were derived using a 10<sup>-6</sup> risk level, which the Agency believes reflects an appropriate risk for the general population and ensures protection for all exposed population groups. EPA also considers that the goal is satisfied if the general population will be adequately protected by human health criteria when the criteria are met in ambient water. EPA acknowledges that at any given risk level for the general population, those segments of the population

that are more highly exposed face a higher relative risk. For example, if fish are contaminated at a level permitted by criteria derived on the basis of a risk level of 10<sup>-6</sup>, individuals consuming up to 10 times the assumed fish consumption rate would be protected at a 10<sup>-5</sup> risk level. Similarly, individuals consuming up to 100 times the assumed rate would still be protected at a 10<sup>-4</sup> risk level. Consistent with this, a criterion based on 6.5 gm/day at a risk level of 10<sup>-6</sup> would protect those who consumed 650 gm/day at a 10<sup>-4</sup> risk level.

EPA has advocated State and Tribal flexibility to develop criteria, on a site-specific basis, that provides additional protection appropriate for highly exposed populations. EPA has not found that such a demonstration has been made for specific waterbodies covered by the CTR that warrants a change or re-proposal of the CTR criteria at this time. EPA understands that highly exposed populations may be widely distributed geographically throughout a given State and Tribal area. Thus, if the State or Tribe determines that a highly exposed population would not be adequately protected by criteria based on the general population, EPA recommends that the State/Tribe adopt more stringent criteria. Furthermore, EPA recommends that States and Tribes ensure that the most highly exposed populations not exceed a risk level of 10<sup>-4</sup>.

It should also be understood when comparing the fish intake assumption of 6.5 grams/day used to develop these criteria with other studies, including the studies referenced by the commenter (such as the surveys by "CBESAFER!", the Save San Francisco Bay Association, etc.), that the 6.5 gm/day value reflects consumption of fresh/estuarine species only and does not include marine species. It is the fresh/estuarine species that apply to the development of water quality criteria for the waters covered under this rule. Specifically, the CTR's ambient water quality criteria are applicable to inland waters and estuaries. The CTR does not apply to ocean waters that are covered by California's Ocean Plan. The commenter needs to separate out marine species before any comparisons between studies can be appropriately made. EPA's water quality criteria program policy has historically been to evaluate fish intake from fresh and estuarine species only, based on knowledge of life-cycles of the species including relevant information from the National Marine Fisheries Service. The purpose is to include those species that are anticipated to be potentially exposed to pollutants in fresh and estuarine waterbodies, based on this life-cycle information [for further discussion on this policy, see the Ambient Water Quality Criteria Derivation Methodology Human Health Technical Support Document, Final Draft (EPA-822-B-98-005)].

EPA is developing a revised methodology for deriving water quality criteria to protect human health and is updating its recommendations for estimating fish consumption, including evaluating the most recent survey data (see draft revisions published August 14, 1998, Federal Register, Vol. 63, No. 157). EPA is currently reviewing public comments and is awaiting the results of a peer review on the draft methodology revisions. However, until the methodology is finalized, EPA believes that the current methodology is scientifically defensible.

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Comment ID: CTR-002-005a  
Comment Author: Comm. for a Better Environment  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? Y

## CROSS REFERENCES C-21

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Comment: C. Criteria for the pollutants of most concern do not provide equal protection for people of color and are not supportable by science.

EPA cannot show that its weaker proposed criteria will protect fishing and aquatic life from dioxin-like compounds, mercury, and copper. Further, EPA's proposal to allow greater health risks for subsistence fishers fails to provide equal protection under the law and is contrary to the President's Executive Order on Environmental Justice.

The proposed criteria provide unequal protection for people of color who fish for food. EPA admits in the proposal that: "There may be subpopulations within a state, such as subsistence anglers who as a result of greater exposure to a contaminant, are at greater risk than the hypothetical 70 kilogram person eating 6.5 grams per day of maximally contaminated fish.. ." Indeed, ample data show that some people exercise their fishing rights to "use" Bay waters by eating up to a pound (450 grams) per day of fish from San Francisco Bay, and most of them are people of color.(\*8) EPA's discussion then goes on to admit that it is proposing to provide less protection for these subsistence anglers: "[I]ndividuals that ingest ten times more of a carcinogenic pollutant than is assumed in derivation of the criteria at a [one excess cancer in a million] risk level will be protected to a [one in 100,000] level, which EPA has historically considered to be adequately protective." However, people who eat a pound per day eat seventy times more, and pages 8- 11 and 8-12 of EPA's economic analysis admit people eat 16 times more, than the 6.5 grams (1/70th of a pound) of Bay fish per day assumed in EPA's criteria. EPA's own calculations show present cancer threats of nearly 1 in 1,000 for some Bay anglers at these higher consumption levels. Thus, EPA itself predicts that its proposal will result in lesser, inadequate protection for people of color who rely on Bay-caught fish for food.

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(\*8) Previously unpublished data from a 1993-4 survey of 500 anglers using South and Central San Francisco Bay by Communities for a Better Environment-SAFER!; Save San Francisco Bay Association, 1995 (excerpt); West, 1992; West et al., 1992; Peterson et al., 1994; and USEPA, 1994. (excerpt of a draft report discussing and citing work by EPA, Wolfe and Walker (1987), Svensson (1991) and others. Includes analysis of the evidence.

Response to: CTR-002-005a

EPA believes that this rule is consistent with the terms of the Executive Order (E.O.) on Environmental Justice. EPA rejects the notion that the rule is, in any respect, discriminatory against persons or populations because of their race, color, or national origin. The final rule establishes criteria that are designed to ensure protection of the public, including highly exposed populations. While some groups and individuals, including some low income and minority persons and populations, may face a greater risk of adverse health effects than the general population due to their particular fish consumption patterns, EPA believes that these groups will nonetheless receive a level of public health protection within the range that EPA has long considered to be appropriate in its environmental programs (e.g., 10<sup>-4</sup> to 10<sup>-6</sup> incremental cancer risk). Obviously, as long as there is variability in fish consumption patterns among various segments of the population, it would be impossible for EPA to ensure that all groups would face identical risk from consuming fish. Therefore, EPA has sought to ensure that, after attainment of water quality criteria in ambient waters, no group is subject to increase cancer risks greater than the risk range that the EPA has long considered protective. EPA disagrees that individuals who consume up to a pound of fish per day would face a 10<sup>-3</sup> cancer risk. Given that the basis of the criteria

are a 6.5 gm/day assumption at a 10<sup>-6</sup> risk level, individuals who consume a pound of fish per day would be protected within the established acceptable range of 10<sup>-4</sup> to 10<sup>-6</sup>, consistent throughout current EPA program office guidance and regulatory actions. See also the discussion in response to CTR-002-002a.

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Comment ID: CTR-006-002b  
Comment Author: Natural Resources Defense Cncl  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? Y  
CROSS REFERENCES C-01a

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Comment: Dear Ms. Frankel,

The Natural Resources Defense Council strongly opposes the Region 9 EPA proposal to raise the allowable mercury criterion for continuous concentration in water from 0.012 parts per billion (ppb) to 0.770 ppb for aquatic life. This proposal is difficult to justify from the point of view of science and of public health. On behalf of our over 350,000 members nationwide and our over 55,000 California members, we are writing to register our opposition to the EPA proposed rule.

Mercury is a highly poisonous metal which results in toxicity to the brain and nervous system and toxicity to human reproduction. In addition, in sediments, mercury is bio-transformed into the even more toxic form, methyl mercury, which has resulted in some of the largest epidemics of neuro-developmental poisoning known to mankind. Methyl mercury bioaccumulates in the food chain and thereby results in greatly concentrated exposures to humans, because we eat off the top of the food chain. Underestimates of the toxicity and bioaccumulation of mercury have led to major mistakes in the past. The Minamata Bay disaster in Japan was caused by a failure to predict the potency of mercury and the extent of human exposure through fish. U.S. EPA's Draft Mercury Study Report to Congress documents that children of high-end fish consumers in the U.S. may be exposed to enough mercury to cause adverse neuro-developmental effects.

In this setting it is anomalous to relax the standards for mercury contamination in California water. Furthermore, the scientific reasoning behind the Region 9 EPA decision to relax the mercury standard 60-fold is fraught with errors. NRDC's major concerns with this approach are summarized below.

\*Extrapolation for the Reference Dose (RfD) should start at a NOAEL, not at a level of 10% increased risk. \*An additional 10-fold safety factor should be added in deriving the RfD to account for the vulnerability of fetuses, infants, and children. \*The body weight in the calculation should be for a child, not an adult male. \*The Fish consumption rates for those who do eat fish should be used instead of rates for the entire population including those who do not eat fish. \*Average fish consumption quantities greatly understate the risk to those who eat a lot of fish. Instead, fish consumption for the top 5% of the population should be used. \*Bioaccumulation is known to be 10 to 100 fold greater than the estimate used by EPA. \*California's waters are already too polluted with mercury.

Use of Average Fish Consumption is not Health Protective

The assumption used by Region 9 EPA for fish consumption relies on the average fish and shellfish consumption in the entire general population, along with the average intake from each body of water. It is quite clear that fish consumption follows a highly skewed, or Poisson distribution in the population (see attachment from the U.S. EPA Draft Mercury Study Report to Congress, Appendix H, p. 20). Many people eat little or no fish, but a smaller, yet highly significant segment of the population eats a very large amount of fish. Surely EPA should strive just as hard to protect the health of those who eat fish frequently as it does to protect the health of those who do not eat fish.

In fact, this analysis adequately protects only those who eat little or no fish. The average which was used in the Region 9 EPA analysis appears to derive from the "per capita" data from the USDA Continuing Surveys of Food Intake by Individuals (CSF II) from 1989-91 for males ages 15-44 years. (See attached tables from U.S. EPA Mercury, Report, Appendix H, pp. 8 & I 1). In fact, this average is highly influenced by those individuals who consume little or no fish. Non-fish-consumers, however, are not the population of interest for purposes of this analysis. Instead, if an average is to be used, it should be the average fish consumption rate for those people who do eat fish. This is substantially higher, at 53.7 g/day for males ages 15-44 years, and 41.4 g/day for females in the same age range. Furthermore, the average fish consumption will likely underestimate the fish consumption rate for the "high end" fish consumer by many orders of magnitude. For example, in the case of females ages 15-44 years, average fish consumption (among those who do eat fish) is 41.4 g/day, while fish consumption by the top 5% of the population of these women of childbearing age is about 112 g/day, or more than double the average consumption rate.

The implications of not adequately protecting the high fish consumer are not trivial. The population of California is nearly 30 million, of whom overall 31% would be expected to be fish consumers according to the CSF II survey. This represents over 9 million people who would be at disproportionate risk. The top 5% of that population consists of nearly half a million people in California who would be expected to eat fish at nearly 10-times greater quantity than the EPA calculations would predict. 10 times greater consumption would translate into roughly 10-times greater risk from the mercury in the fish. EPA is not adequately protecting this substantial portion of the California population from mercury hazards.

NRDC strongly urges Region 9 EPA to reassess the proposed standard for mercury. Recalculation of the reference dose to accommodate the known disproportionate impact of mercury on fetuses, infants, and children will require addition of at least another 10-fold safety factor. The starting point for RfD calculation should be a true NOAEL. The body weight calculation should use an average weight for a child. Fish consumption data should reflect the "high-end" consumer. Finally, the outdated and unsupported bioaccumulation factor of 7300 should be discarded in favor of a BAF which is supported by the current science in California.

Response to: CTR-006-002b

Regarding the issues on mercury health effects, derivation of the RfD, and basis of the fish intake assumption (including discussion of the CSFII survey), see response to CTR-006-002a. For additional discussion regarding the basis of the fish consumption rate, see the response to this issue in CTR-002-002a. Regarding the choice of body weight, see response to CTR-006-001a. Regarding the issues on bioaccumulation, see response to CTR-002-007b.

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Comment ID: CTR-010-002

Comment Author: Save San Francisco Bay Assoc.  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: The Bay is already highly polluted, as is evidenced by the adverse impacts on beneficial uses, particularly fish consumption. The State's Bay Protection and Toxic Cleanup Program has identified numerous probable toxic hot spot locations in the San Francisco and Santa Monica Bays, and confirmed hot spots in San Diego Bay. As bad as San Francisco Bay water quality already is, EPA's Toxics Rule proposal will make current conditions seem pristine compared to what lays ahead if this proposal is enacted.

Response to: CTR-010-002

Regarding the site-specific contamination issues, see response to CTR-002-003.

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Comment ID: CTR-015-001  
Comment Author: Eastern Municipal Water Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/23/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Dear Ms. Frankel:

Eastern Municipal Water District ("District") provides potable and reclaimed water and sewer service to an area of 555 square miles in western Riverside County in Southern California. The District has five regional water reclamation facilities in Moreno Valley, Hemet/San Jacinto, Perris Valley, Temecula Valley and Sun City with a total available capacity of 49 million gallons per day. There are 77,000 fresh water customers and 122,000 sewer connections. The District has a National Pollutant Discharge Elimination System ("NPDES") permit to discharge effluent, which could be combined from all five facilities, to Temescal Creek in the Santa Ana River Basin.

Submitted herewith are comments from the District on the Proposed Rule referenced above, appearing in the August 5 Federal Register, also called the California Toxics Rule ("Rule") . Several District staff have participated in the State Water Quality Planning Process since 1990. It has been complicated and frustrating, especially in light of attempting to obtain NPDES permits while the state was developing plans. Generally, the District is pleased that your agency ("Agency") is bringing some closure to the

issue by promulgating criteria. We do have some recommendations and concerns, however, which we present for your consideration.

Human Health Criteria (FR p. 42178, Preamble section E.3.)

Regarding fish and shellfish consumption rates, which are an important factor in calculating these water quality criteria, the District supports the Agency's use of 6.5 grams/day. What is of concern is the Agency's statement, "EPA supports the State's use of any appropriate higher state-specific fish and shellfish consumption rates in its readoption of criteria in its statewide plans." The discussion centers on the adopted California Ocean Plan's use of 23 grams/day, which was based on a California Department of Health Services memorandum of 1989. It is important to note that this exposure value was based on ocean fish consumption, whereas the Agency's value is based on non-marine fish consumption.

If a high consumption rate is used, the water quality criterion is lower or more stringent. This would become an additional burden for inland dischargers such as our District. For inland waters, and for any developed inland surface water quality criteria, we would like the Agency to recognize that lower consumption rates could also be used. The following shows the mean consumption rates of fish which are representative of California freshwater fisheries. These rates were taken from the Agency's Exposure Factors Handbook of 1989.

Bluegills	--0.089 grams/day	Carp	--0.016 grams/day	Catfish	--0.292 grams/day
Perch	--0.062 grams/day	Sunfish	--0.020 grams/day	Trout	--0.294 grams/day

Generally, the District hopes that appropriate consumption rates are used and desires that site-specific studies be conducted before different rates are selected. We would like to summarize the Agency's own procedures for developing data upon which to base alternative consumption rates, from the Exposure Factors Handbook, 1989, p. 2-39:

1. Interview local recreational fishermen in the affected area and obtain actual consumption rates. Local surveys can provide the most accurate data for exposure assessment purposes.
2. Obtain productivity data for the area and divide total catch data by the number of recreational fishermen in the area.
3. Estimate what portion of fish consumed in the local area is caught in the local area. Apply the diet fraction to the 50th and 90th percentile consumption rates.
4. Develop exposure scenarios assuming a number of fish meals eaten in the area per year, applying a meal size in the range of 100 to 200 grams/meal.

The Agency should encourage the state to conduct, at a minimum, studies in the manner described above for the following situations: lakes and reservoirs, inland surface streams, effluent-dominated streams, and ephemeral and-intermittent streams.

Response to: CTR-015-001

EPA acknowledges the commenters support of the 6.5 gm/day fish intake assumption. EPA also generally agrees that the rate should be indicative of consumption of freshwater and estuarine species only (see additional discussion on the fish intake rate assumptions in response to CTR-002-002a). However, the commenter has expressed concern over the use of California's Ocean Plan fish consumption

rate as a potential "additional burden" for inland dischargers. The commenter appears to support this concern by providing six species-specific intake rates "representative of California freshwater fisheries." EPA believes that this comparison is not appropriate. First, the State of California has both an Inland Surface Waters Plan and an Enclosed Bays and Estuaries Plan that would be more relevant to inland dischargers. Second, the commenter has chosen only several species of fish from a much larger tabulated list in the original 1989 Exposure Factors Handbook (revised in 1995). The table presents consumption data from a study conducted approximately 20 years ago for fish consumers in the United States. EPA believes that this is not necessarily representative of California-specific consumption patterns. EPA has long supported the States' use of local site- or State-specific data over EPA's default values to better reflect the variability of local or regional consumption patterns, when adequate data are available. EPA has published guidance on how to conduct such surveys. The Agency's most recent document is Guidance for Conducting Fish and Wildlife Consumption Surveys (EPA-823-B-98-007).

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Comment ID: CTR-026-007a  
Comment Author: Cal. Department of Fish & Game  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? N  
CROSS REFERENCES C-17a

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#### Comment: 7. HUMAN HEALTH CRITERIA

As you are aware the Department of Fish and Game is the trustee for the natural resources of the State and, as such we are not in an appropriate position to address human health issues. However, we would like to take this opportunity to make EPA aware of our concerns in two areas. The first issue deals with one component of the formula that was used to derive the human health criteria. Obviously, the human health criteria takes into account fish consumption rates, as well as what portion of the fish is consumed. The CTR indicates that the consumption rate utilized was 6.5 grams per day of fish tissue. This consumption rate, at least for the portion of the population that are subsistence fishermen, appears to be very low. If the human health criteria is to be adequately protective, this consumption rate should be revisited and a new rate developed to better protect these fishermen. Our second comment deals with the proposal to base criteria on fish tissue as opposed to water concentration. The DFG does not have a position with respect to this approach except to point out that compliance monitoring for fish tissue criteria may impact resources. This approach would mean an increased number of fish being collected for monitoring purposes which may impact fish resources. It may also impact the DFG's fiscal resources since we regulate scientific collection activity under which fish monitoring would fall.

Response to: CTR-026-007a

Regarding the fish consumption rate, see the response to this issue in CTR-002-002a. Regarding the comments on collecting fish for compliance monitoring and its impact on the Department of Fish and Game's (DFG) resources, the commenter has misunderstood EPA's reference to elevated fish tissue levels. The CTR criteria values are for ambient water quality criteria - that is, the numerical values represent water concentrations. EPA does not intend to add, through the CTR, the collection of fish for

monitoring purposes. Therefore, the DFG should not expect to have any additional workload for collecting or analyzing fish, nor should the DFG anticipate any loss to fisheries resources as a result of the CTR.

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Comment ID: CTR-029-003

Comment Author: Center for Marine Conservation

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-14 Fish or Water Consumption

References:

Attachments? N

CROSS REFERENCES

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Comment: The Center for Marine Conservation (CMC) is a nationwide, nonprofit advocacy group dedicated to the conservation and enhancement of coastal and ocean life and resources. CMC submits these comments on behalf of its 16,000 members in California and over 120,000 members nationwide.

CMC applauds EPA's efforts to bring California into compliance with the Clean Water Act 303(c)(2)(B). Implementing numeric criteria that will protect the beneficial uses of California's waters is of great importance to the health of coastal and marine ecosystems, and so to CMC and its members. The reliance in many areas of the state on narrative criteria threatens the health of most of the state's waters, thereby impacting both human health and the health of the state's economy that relies on clean water.

While CMC strongly supports the swift adoption of an Enclosed Bays and Estuaries Plan and an Inland Surface Waters Plan that contain numeric criteria for toxic pollutants, CMC also is concerned that many of the specific criteria contained in the proposed rule are weaker than those contained in published guidance. CMC also believes that the proposed rule can better protect certain subpopulations from harm caused by consumption of contaminated fish and shellfish. Finally, CMC is concerned that the economic analysis of the proposed rule over-emphasizes costs and under-reports the many benefits of improving water quality throughout the state. These three points are reviewed below.

#### Fish Consumption Figures Should Be Recalculated to Protect Exposed Subpopulations Adequately

For purposes of establishing human health criteria, the proposed rule assumes the consumption of 6.5 grams of fish and shellfish per day by an average adult with a body weight of 70 kilograms>(\*7) These two figures should be adjusted to better protect subpopulations exposed to contaminated fish and shellfish, particularly mercury contaminated fish and shellfish.

First, the 6.5 grams per day figure simply averages fish consumption over all of the population without accounting for the fact that much of the population either does not eat fish at all or relies on fish for much of their daily diet. A simple average thus underprotects much of the more significantly exposed population. Moreover, this figure is inconsistent with the Ocean Plan's estimate of 23 grams of fish and shellfish ingested per day. At a minimum, the analysis should be revised to use this more conservative figure.

Second, the use of a 70-kilogram man significantly underprotects children and pregnant women, who are most at risk from eating fish and shellfish contaminated with toxics. The proposed rule justifies this figure by claiming that "[p]ersons of smaller body weight are expected to ingest less ... so the dose per kilogram of body weight is generally expected to be roughly comparable." In fact, growing children and pregnant women often eat as much or more than many 70-kilogram adults, and so the calculated "safe" dose will be far too high for their body size. We urge EPA to base the human health criteria on a child's weight in order to better protect this most vulnerable group of people.

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(\*7) Id. at 42176.

Response to: CTR-029-003

Regarding the protectiveness of the proposed criteria, see response to CTR-029-002a. With respect to EPA's estimation of costs and benefits, see response to CTR-029-004a.

EPA disagrees with the commenter that the fish consumption rate is based on "the fact that much of the population does not eat fish" - the opposite is true (see discussion on this same issue in the response to CTR-002-002a). Also, the commenter has advocated the use of 23 gm/day from the State of California's Ocean Plan estimate. This Plan, which is the State's undertaking, and the fish intake estimate is based on consumption relevant to marine species of fish and is, therefore, not an appropriate comparison to the estimate of 6.5 gm/day, which is based on fresh/estuarine species only. EPA acknowledges that there are population groups who consume greater amounts of fish than the overall population. However, EPA believes that its assumption of 6.5 gm/day is adequately protective. These issues are discussed in the response to CTR-002-002a. Regarding the body weight assumption, EPA believes that 70 kg is an appropriate body weight because it represents a reasonable measurement for adults and most of the criteria are based on chronic health effects [i.e., Reference Doses (RfDs) based on exposure over the course of a lifetime] for which the adult population is most appropriate. EPA acknowledges that where the RfD is based on health effects in children, the exposure parameters, including the body weight assumption, should be adjusted for a child. Such assumptions may be used on a chemical-by-chemical basis in calculating criteria. However, for this rule EPA believes it has made appropriate assumptions with the chemicals being regulated. For a specific discussion on this issue related to the mercury criterion, see the response to CTR-006-001a.

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Comment ID: CTR-035-022  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: p. 42176 & 42178 - Fish Consumption Rates In general, we support EPA's use of a fish consumption rate of 6.5 g/day in the CTR criteria. However, it may be more accurate to develop rates based on freshwater fish/shellfish consumption and marine/estuarine fish/shellfish consumption. While

EPA says on p. 42176 that the State may want to develop site-specific criteria where warranted, the Preamble also states on p. 42178 that EPA "supports the State's use of any appropriate higher state-specific fish and shellfish consumption rates in its readoption of criteria in its statewide plans." (emphasis added) We believe that the latter statement should be consistent with the previous statement, and that site-specific criteria should be developed using local fish and shellfish consumption rates where warranted, regardless of whether they are higher or lower than the national average consumption rate. For instance, in recalculating human health criteria for effluent dependent waters where fish consumption is a designated use, EPA or the State should consider using 1.72 g/day (see 62 Fed. Reg. 42179). We believe that this freshwater consumption rate may even be high, based on the following mean consumption rates of fish that are representative of California's freshwater fisheries (U.S. EPA, 1990b):

Bluegills	0.089 grams/day	Carp	0.016 grams/day	Catfish	0.292 grams/day	Perch	0.062 grams/day
Sunfish	0.020 grams/day	Trout	0.294 grams/day				

Response to: CTR-035-022

EPA disagrees that the two referenced statements regarding criteria development and fish intake rates are inconsistent. If a State determined, based on adequate data, that its population did in fact consume less fish than EPA's default value, EPA would support the State's use of that value. However, the commenter has presented values from only several species of fish from a much larger tabulated list in the original 1989 Exposure Factors Handbook (revised in 1995) and suggested that they are appropriate for a site-specific criterion. EPA disagrees with this rationale. The table actually presents consumption data from a study conducted for fish consumers in the United States. EPA believes that this is not necessarily representative of California-specific consumption patterns. The point of allowing such flexibility with site-specific criteria is that data are available for that particular site, which the commenter has not demonstrated. Further, EPA disagrees that the use of 1.72 gm/day would protect the general population of California. See additional discussion on protecting the general population in response to CTR-002-002a.

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Comment ID: CTR-039-004

Comment Author: San Francisco BayKeeper

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-14 Fish or Water Consumption

References:

Attachments? N

CROSS REFERENCES

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Comment: On behalf of San Francisco BayKeeper, its Stockton-based DeltaKeeper project, San Diego BayKeeper and Santa Monica BayKeeper (hereinafter "BayKeeper"), I am submitting these comments for consideration in finalizing EPA's proposed rule establishing water quality criteria for priority toxic pollutants for the waters of the State of California. The need for numeric criteria for priority toxic pollutants was identified by Congress ten years ago when, in October, 1987, it enacted amendments to the Clean Water Act mandating that States issue such criteria by not later than October 18, 1990. The State of California adopted a portion of the mandated criteria in April, 1991, which, in large part, EPA approved. However, even that partial compliance was thwarted by the Sacramento Superior Court's

overly broad decision vacating the State's decision based solely on a flawed economic analysis purportedly required by State law.

Now, seven years later, although appreciative of the complexity of the task required by Congress, BayKeeper is deeply concerned that EPA's proposed rule to cure the State's violation will undermine permit limits promulgated throughout the Bay area and other regions, allowing more pollution to be discharged to San Francisco Bay and other state waters in violation of the State and EPA's antidegradation policies. BayKeeper also is very concerned that EPA is promulgating criteria for mercury, dioxin and 13 other pollutants which are based on drastic underestimates of the quantity of fish consumed by recreational and subsistence anglers throughout the State of California. BayKeeper also believes that at this late date, the proposal to allow compliance schedules which could delay for up to ten years compliance with permit effluent limitations based upon the proposed criteria is inappropriate given the already seven year delay suffered by California's aquatic ecosystems and the people who depend upon the health of those systems for food and recreation.

## II. MANY RECREATIONAL AND SUBSISTENCE ANGLERS EAT MORE THAN 6.5 GRAMS OF FISH PER DAY.

According to EPA's "Economic Analysis of the Proposed California Water Quality Toxics Rule," (July 1997), anglers throughout the State who eat on average 107.1 grams/day of fish from California's waters (about 10% of the people fishing), after the proposed rule is enacted, will still be confronted with a lifetime cancer risk of from  $6.65 \times 10E-4$  to  $9.26 \times 10E-4$ . Economic Analysis at 8-15. That correlates

roughly to a 1000 times greater chance of those anglers getting cancer than the  $1 \times 10^{-6}$  risk established by the State or an increased cancer risk of approximately 1 cancer death per 1,000 people. 107 grams is about a quarter of a pound. Surveys in the San Francisco Bay area have found that many anglers eat up to a pound (450 grams) per day of fish, increasing the risk even beyond that documented in the Economic Analysis. There is no reason to assume that subsistence anglers throughout the State are not consuming fish at a similar rate. In calculating criteria for mercury, dioxin, PCBs and other contaminants, EPA "assumes" a consumption rate of 6.5 grams per day. That number purports to be "equivalent to the average per-capita consumption rate of all (contaminated and non-contaminated) freshwater and estuarine fish and shellfish for the U.S. population." 62 Fed. Reg. at 42176. Congress' directive that the "solution to pollution is not dilution" should apply even more forcefully to human health impacts. EPA should not be allowed to dilute the health effects of fish consumption in California by averaging it into the fish consumption rates of the entire country nor should EPA dilute the effects of contaminated fish on those people who choose or need to use the Nation's waters more than others -- recreational and subsistence anglers -- by lumping their consumption rates in with the general populations.

Despite the fact that EPA has acknowledged in its Economic Analysis that it is well-documented that a significant subpopulation of people eat considerable amounts of fish, the proposed rule chooses to ignore this fact, couching it as a mere possibility which the State should address if it chooses to. See 62 Fed. Reg. 42176 ("[t]here may ... be circumstances where site specific numeric criteria are more stringent than the statewide criteria are necessary to adequately protect highly exposed subpopulations [like subsistence anglers]'). Of course, the whole rationale for EPA to be issuing the proposed rule is inaction by the State of California. The notion that certain critical determinations involving direct human health impacts should be left to a crippled process is arbitrary and does not accomplish what Congress set out to do in establishing Section 303(c)(2)(B) back in 1987.

Perhaps the greatest irony of EPA's methodology in selecting a consumption rate is apparent if one considers that, as our waters become more and more deteriorated from toxic contaminants and people become more and more aware of that contamination, they are likely to eat less and less fish, driving down the national fish consumption average and, under EPA's way of calculating, allowing more pollution to be discharged. EPA must set a consumption level that protects the most sensitive users and renders California's waters truly "fishable" not "fishable if you want to risk getting cancer."

Response to: CTR-039-004

EPA believes its estimate of consumption level for the general population is reasonable and its selection of risk level for the general population affords adequate protection for all populations. For water quality criteria established in the CTR, individuals consuming 107.1 gm/day would be protected at approximately a  $10^{-5}$  risk level and that individuals consuming up to a pound a day would still be protected at a  $10^{-4}$  level. For a more detailed discussion on this same issue see the response to CTR-002-002a.

EPA acknowledges that the commenter drew its lifetime cancer risk estimates for people who eat an average of 107.1 gm/day of fish of  $6.7 \times 10^{-4}$  to  $9.3 \times 10^{-4}$  from the benefits portion of EPA's Economic Analysis (EA). However, the post rule cancer risk estimates in EPA's EA were calculated conservatively and are likely overstated for two reasons.

First, the benefits portion of the EA only accounts for risk reduction that occurs from reducing point source discharges. Thus, the post rule risk estimate in the EA is only a partial accounting of the potential reductions in fish contamination that will eventually result from implementation of the CTR. The reason for this is that EPA only accounted for costs of the rule to NPDES dischargers. In order to fairly compare costs with benefits, the benefits only included estimates of risk reductions that would take place due to increased controls on NPDES dischargers. However, in actuality, the standards established in the CTR apply to the waterbodies (i.e., inland

surface waters and enclosed bays and estuaries). As controls on other sources are implemented, perhaps as a matter of state law, (e.g., remediation of contaminated sediments; best management practices to control non point sources and runoff from agricultural land), EPA expects that in the future the CTR criteria will be attained in the waterbodies and concentrations of pollutants in fish tissue will decline further.

Second, the baseline and post-regulatory risk estimate in the benefits portion of the EA was calculated by adding together all of the individual excess lifetime cancer risks for all of the chemicals identified in fish tissue data collected throughout the State. This assumes that an individual is eating fish contaminated with all of the chemicals identified in the study. To the extent that not all fish contain all contaminants at the assumed concentrations, both baseline and post-regulatory cancer risk estimates in the EA may be overstated. While this approach is appropriate for analytical purposes in the economic analysis' benefits assessment, agency scientists who establish ambient water quality criteria do not believe that the science demonstrates that individual risks can simply be added together for purposes of criteria development.

The commenter, in its discussion, also states that the consumption rate accounts for both contaminated and non-contaminated fresh/estuarine fish and shellfish. Although there are many circumstances relevant to fish consumption and contamination patterns, in an effort to be protective of populations that do consume most or all of their fish from a given water body, the equation to derive criteria does not subtract any of the consumption rate - that is, there is no discounting for non-contamination. This assumption helps to ensure that people can safely consume fish from waters designated for fishing and to derive allowable levels of toxics that are adequately protective of human health under the Clean Water Act.

EPA believes that its criteria are adequately protective. States have the flexibility to be more protective if they believe it is appropriate. However, with this rule, EPA is only promulgating criteria. That is, antidegradation policies are not affected by this action. Regulated entities must still comply with existing State antidegradation policies and procedures. Also, compliance schedules are a fact-specific, facility-specific determination. All stakeholders will have an opportunity to review the facts and comment on the appropriateness of a compliance schedule for any given situation as part of the public noticing of the draft NPDES permit. With respect to the comments regarding the length of the compliance schedule, see response to comment CTR-002-010b.

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Comment ID: CTR-060-015  
Comment Author: San Diego Gas and Electric  
Document Type: Electric Utility  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: PROVISIONS SDG&E DOES NOT SUPPORT

As described in the following comments SDG&E does not support the following provisions:

\* The fish consumption rate of 6.5 g/day used is not representative of fish consumption within the State of California, and overestimates exposure. This value is reported by the EPA to represent an estimate of average consumption of fish and shellfish from estuarine and fresh waters by the U.S. population(\*3) . The draft EPA

Exposure Factors Handbook (\*4)(EFH) summarizes studies on the intake of fish and shellfish, and includes study results for Northern and Southern California from the National Marine Fisheries Service. While this data is compiled for fish from marine habitats, other data summarized in Table 10-8 of the draft EFH suggests that the percentage of the population consuming and the mean daily fish intakes are higher for fish from marine habitats than for freshwater/estuarine habitats. The mean daily intake of marine finfish for anglers was 2.0 g/day for both Northern and Southern California, and the intake was 0.2 or 0.3 g/day on a per capita basis in the coastal population. The value of 2.0 g/day would be a more reasonable consumption rate and should be sufficiently health-protective of the more highly exposed sub-population of the state, because this intake is restricted to the angler population, which may reasonably be expected to consume their own catch and to represent a greater exposed population than the entire population of the state. The intake rate from this database is more up-to-date and is geographically representative. The criteria should be recalculated using the California fish intake rate.

#### General human health criteria issues

\* Fish consumption rate - See the above discussion for PAHs regarding the over estimation of fish consumption rates used in the human health criteria.

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(\*3) U.S. EPA, 1989. Assessing Human Health Risks from Chemically Contaminated Fish and Shellfish. Office of Water Regulations and Standards. EPA-503/8-89-002.

(\*4)U.S. EPA, 1996. Exposure Factors Handbook. EPA/600/P-95/002Ba. Office of Research and Development.

Response to: CTR-060-015

EPA disagrees with the commenter. EPA believes that the 6.5 grams/day fish intake estimate is adequately protective of the general population of fish consumers over the course of a lifetime and is appropriate for this rule. The commenter suggests that EPA use an intake value based on marine finfish consumption of 2.0 gm/day. However, it is the fresh/estuarine species of finfish and shellfish that apply to the development of water quality criteria for the waters covered under this rule. Specifically, EPA's ambient water quality criteria are applicable to inland waters and estuaries. Further, EPA is aware of other studies that indicate higher consumption rates than suggested by the commenter. For further discussion on the basis of EPA's estimate, refer to the response for CTR-002-002a.

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Comment ID: CTR-065-003a  
Comment Author: Environmental Health Coalition  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? N  
CROSS REFERENCES C-21

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Comment: HUMAN HEALTH CRITERIA

EHC is very concerned about the use of 6.5 grams per day of fish tissue as a basis upon which to derive human health criteria. This is not adequate to protect the many thousands of subsistence fishers of California coastal waters. We trust EPA is not in the business of protecting "most of the people, most of the time" as is the indicated goal for marine organisms elsewhere in the CTR (see comments below).

We refer you to a study conducted by the Save San Francisco Bay Association that concluded that fishers of San Francisco Bay consumed 81grams per day in the week prior to the survey with consumption rates as high as 450 grams/day... This element of the CTR must be recalculated at a higher rate of consumption and with a healthy safety margin to accommodate for synergistic and cumulative effects. Further, the Save San Francisco study showed that heads and skin were frequently consumed, the health criteria must reflect these actual eating patterns and practices as well and reflect the cultural diversity of users of the Bays. Since many subsistence fishers are people of color, adoption of this rule could violate the President's Order on Environmental Justice b exposing these populations to increased and undue environmental health risks.

Response to: CTR-065-003a

EPA acknowledges that there are population groups that consume greater amounts of fish than the overall population. However, EPA believes that the intake rate of 6.5 grams/day is adequately protective of the general population of fish consumers over the course of a lifetime. EPA has reviewed the materials submitted by the commenter from the Save San Francisco Bay Association and, as is discussed in CTR-002-002a, the commenter needs to separate out those species defined as marine from the referenced tables (e.g., shark, ray, cod, halibut, mackerel, marine salmon) in order to appropriately compare fish intake rates that are relevant to the development of the CTR criteria. Other issues on the fish consumption rate are also discussed in the response to CTR-002-002a. Regarding the comment on the President's Executive Order on Environmental Justice, see the response to CTR-002-005a.

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Comment ID: CTR-095-001d

Comment Author: M. Ruth Uiswander

Document Type: Citizen

State of Origin: CA

Represented Org:

Document Date: 10/02/97

Subject Matter Code: C-14 Fish or Water Consumption

References:

Attachments? N

CROSS REFERENCES C-20

C-17a

C-21

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Comment: In regard to the numeric water quality standards criteria for California surface water, they have been revealed by environmental groups to be insufficiently protective and environmentally unjust. The proposed new rules assume fish ingestion of 6.5 grams per day. In reality, consumption of fish in some communities can be as high as 1 pound per day. This level of consumption is especially likely among subsistence fishers.

Please prevent toxic pollution in California's bays by making more protective standards that consider all toxic pollutants and consider the fish consumption habits of subsistence anglers.

Response to: CTR-095-001d

See responses to CTR-002-002a, CTR-002-005a and the response to CTR-058-001 (Subject Matter Code C-13, Risk Level).

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Comment ID: CTR-097-001b  
Comment Author: Mark Shaw  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/03/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? N  
CROSS REFERENCES C-17a

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Comment: I am writing to urge you to more stringent - and more protective - water quality standards for California surface water. The proposed standards are too weak and discriminatory in their effects.

Lastly, the proposed standards are discriminatory in their effects in that they assume consumption of only 6.5 grams of fish per day per person. Many poorer communities catch and eat fish for subsistence - as much as a pound per day per person (more than sixty what the EPA estimates!) placing them at greater risk. The standards should be set to protect everybody, including those who happen to be poor and/or eat a significant amount of fish.

Please set the standards to protect us all and move us closer to the goals of the Clean Water Act, that our waters be safely fishable and swimmable.

Response to: CTR-097-001b

See responses to CTR-002-002a, CTR-002-005a and the response for Subject Matter Code C-13, Risk Level.

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Comment ID: CTR-098-001  
Comment Author: Elena Goldstein  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/02/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: I am writing to urge you to work towards the prevention of toxic pollution in the bays of California. It is evident that more protective standards are needed to protect those who fish and those who consume the

fish. Not to do so would be completely irresponsible. Turning a deaf ear to the situation or bending to pressure from business interests would, I suggest, also be immoral.

Response to: CTR-098-001

See responses to CTR-002-002a and CTR-002-005a.

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Comment ID: CTR-099-002  
Comment Author: Emil A. Lawton, Ph.D.  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/03/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: First, the 6.5 grams per day must be out in left field. Your staff must have divided the total consumption by the population. It ignored that some people do not eat fish, some eat very little and others eat fish regularly. Subsistence fishers are the obvious case in point, but what about so many of us who have eschewed red meat for a contemporary healthy diet of fish and fowl. We eat about 1/3 LB three times a week. This comes to about 61 grams a day, almost an order of magnitude larger than you baseline case.

Response to: CTR-099-002

EPA acknowledges that there are population groups that consume greater amounts of fish than the overall population. However, EPA believes that the intake rate of 6.5 grams/day is adequately protective of the general population of fish consumers over the course of a lifetime. For a more detailed discussion on this issue, see response to CTR-002-002a.

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Comment ID: CTR-101-001a  
Comment Author: Cheesemans' Ecology/Brd Safari  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 10/06/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? N  
CROSS REFERENCES C-20

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Comment: We would like to thank the EPA for accepting comments on its proposed numeric water quality standards criteria for California surface water. We urge the prevention of toxic pollution in California's bays by creating more protective standards that consider all toxic pollutants of concern and that address the consumption habits of subsistence fishers, as well as "average" fish consumers.

Response to: CTR-101-001a

Regarding fish consumption, refer to the response to CTR-002-002a.

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Comment ID: CTR-102-002  
Comment Author: Bryan Gordon  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/10/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: California EPA should not be satisfied that our state's water quality standards are adequate if they only protect the segment of the population that does not have regular or frequent contact with the water or aquatic organisms. Water quality standards should ensure that the state's waterways are pure enough to protect that segment of the population that includes subsistence fish consumers.

Since the Clean Water Act has the goal of making our Nation's waterways "fishable and "swimable", any water quality standards that do not protect the health of that segment of the population that consumes more fish than the prescribed 6.5 grams per day is simply flawed.

Response to: CTR-102-002

See response to CTR-002-002a.

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Comment ID: CTR-104-001  
Comment Author: Lucy Nelson, et. al.  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/15/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: It has been proven that unacceptable amounts of such toxins as mercury, dioxin and 13 other pollutants are in our state's surface waters. In establishing standards for these toxins, proposed new rules assume fish consumption at 6.5 grams per day. But in certain communities where subsistence anglers eat fish more often, it can amount to one pound daily. Even at 1/4 pound daily, the proposed standards would mean a cancer risk 1000 times higher than current state law states as "acceptable".

We should address the consumption habits of subsistence fishers, as well as the average fish consumer from the general public.

Thank you for your immediate attention to the above.

Response to: CTR-104-001

EPA disagrees with the commenter that persons consuming a quarter pound of fish per day would experience a cancer risk 1,000 times higher than the basis of the CTR. EPA believes that individuals consuming this amount would be protected at approximately a 10<sup>-5</sup> risk level and that individuals consuming up to a pound a day would still be protected at a 10<sup>-4</sup> risk level. For a more detailed discussion on this issue, see response to CTR-002-002a.

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Comment ID: CTR-104-002b  
Comment Author: Lucy Nelson, et. al.  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/15/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? N  
CROSS REFERENCES C-01a

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Comment: Proposed mercury standards fail to account for bioaccumulation of mercury in fish tissue. Mercury is amassed through their consumption of food.

Response to: CTR-104-002b

Regarding the issue on mercury bioaccumulation, see response to CTR-002-007b.

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Comment ID: CTR-105-001b  
Comment Author: Heather Catherine Park Tausig  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/13/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? N  
CROSS REFERENCES C-20

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Comment: I understand that the EPA is currently accepting comments on its proposed numeric water quality standards criteria for California surface water. I am writing to urge the EPA support the prevention of toxic pollution in California's bays by creating more protective standards that consider all toxic pollutants of concern and that address the consumption habits of subsistence fishers, as well as "average" fish consumers.

Response to: CTR-105-001b

Regarding the fish consumption issue, refer to response to CTR-002-002a.

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Comment ID: CTR-106-001  
Comment Author: Robert Brown  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/28/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: It has been proven that unacceptable amounts of such toxins as mercury, dioxin and 13 other pollutants are in our state's surface waters. In establishing standards for these toxins, proposed new rules assume fish consumption at 6.5 grams per day. But in certain communities where subsistence anglers eat fish more often, it can amount to one pound daily. Even at 1/4 pound daily, the proposed standards would mean a cancer risk 1000 times higher than current state law states as "acceptable".

We should address the consumption habits of subsistence fishers, as well as the average fish consumer from the general public.

Thank you for your immediate attention to the above.

Response to: CTR-106-001

See response to CTR-104-001.

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Comment ID: CTR-106-002b  
Comment Author: Robert Brown  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/28/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? N  
CROSS REFERENCES C-01a

---

Comment: Proposed mercury standards fail to account for bioaccumulation of mercury in fish tissue. Mercury is amassed through their consumption of food.

Response to: CTR-106-002b

Regarding the issue on mercury bioaccumulation, see response to CTR-002-007b.

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Comment ID: CTR-109-001a  
Comment Author: Maggie Miller  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 12/01/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? N  
CROSS REFERENCES C-20

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Comment: The new water quality standards the EPA is proposing for California surface waters disturbs me greatly. There are several problems with the proposed rules. First in establishing standards for mercury, dioxin, PCBs, and other contaminants, the proposed new rules assume fish consumption at 6.5 grams per day yet consumption of fish in certain communities can be as high as one pound per day, over 60 times more than estimated by the EPA. Please don't underestimate fish consumption by people of different races and cultures.

Please prevent the toxic pollution of California waters by creating more protective standards that consider all toxic pollutants and all consumers of fish. Thank you.

Response to: CTR-109-001a

EPA acknowledges that there are population groups that consume greater amounts of fish than the overall population. However, EPA believes that the intake rate of 6.5 grams/day is adequately protective of the general population of fish consumers over the course of a lifetime. For a more detailed discussion on this issue, see responses to CTR-002-002a and CTR-002-005a.

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Comment ID: CTR-109-002b  
Comment Author: Maggie Miller  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 12/01/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? N  
CROSS REFERENCES C-01a

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Comment: Second, the proposed mercury standards fall to account for the bioaccumulation of mercury in fish tissue. The proposed standard ignores mercury that enters fish through their own consumption of food.

Response to: CTR-109-002b

Regarding the issue on mercury bioaccumulation, see response to CTR-002-007b.

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Comment ID: CTRH-001-050b  
Comment Author: Michael Lozeau  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: S.F. Bay/Delta Keeper  
Document Date: 09/17/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? N  
CROSS REFERENCES C-1a

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Comment: For mercury, certainly I would concur with the previous comments, that the number should be -- that is appropriate is accumulation factors.

Now the bioconcentration factor, in deference to this state's consumption rates that have been determined are appropriate for California, I think using the average consumption rate for everyone in the country, by definition, lops off about half of the population. It seems to me that it doesn't account for those users of the bay who are the high consumption -- high fish-consumption users, which obviously there's a number of them, and that's not reflected in that average at all.

So I think that those bioaccumulation factors are important to the mercury number base data that we have for the bay for all the reasons stated earlier, and similarly for dioxin. It seems as if EPA would like to back away on that, the criteria that is listed.

Response to: CTRH-001-050b

Regarding the issue on the fish consumption rate, see response to CTR-002-002a. Regarding the issue on mercury bioaccumulation, see response to CTR-002-007b.

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Comment ID: CTRH-001-053  
Comment Author: Michael Lozeau  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: S.F. Bay/Delta Keeper  
Document Date: 09/17/97  
Subject Matter Code: C-14 Fish or Water Consumption  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: I already mentioned average consumption rate, but 6.5 grams is just not realistic. I have people out fishing every day at -- my office is on the end of a pier in San Francisco, and every day there are at least five or six people fishing off that pier, the same people every day, and some of them are great at it. They throw that line in and get six or seven fish every day, and I'm sure they're eating them.

I can't actually communicate with them very well -- one of them, I can. And people who eat a lot of fish, consuming fish regularly from the bay, 6.5 is really not a realistic number to protect the most sensitive part of the population.

And EPA is doing air rules related to asthma, geared for the most sensitive part of the population, but you get to the water rules and we're looking at very little -- the average for the whole country, even including Montana or Idaho, where -- I don't even know whether fish consumption goes down in the middle of the country, but I have to imagine that in the coastal states it's much higher.

So the average has nothing to do with the most sensitive population. so that should be taken into account. That would adjust some numbers pretty drastically.

Response to: CTRH-001-053

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See responses to CTR-002-002a and CTR-002-005a.

Subject Matter Code: C-15 Salinity

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Comment ID: CTR-016-004  
Comment Author: San Francisco Bay RWQCB  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-15 Salinity  
References:  
Attachments? Y

**CROSS REFERENCES**

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Comment: Proposed Application of Saltwater and Freshwater Criteria

In the proposed California Toxics Rule, EPA is proposing to use the definitions in 40 CFR 131.38(c)(3) to determine when saltwater and freshwater criteria should apply to water bodies. The proposal is to use the lower of the freshwater and saltwater criteria when salinities are between less than 1 ppt 95% of the time and greater than 10 ppt 95% of the time. In the 1995 Basin Plan amendments, the Regional Board included a different application procedure. Like EPA, the Regional Board uses the lower of the freshwater and saltwater objectives for estuarine waters, but defines estuarine water as having salinities between less than 5 ppt 75% of the time and greater than 5 ppt 75% of the time, or "tidally influenced fresh waters that support estuarine beneficial uses." The Regional Board elected to use a combination of biological indicators (estuarine beneficial uses) and salinity measurements to define estuarine areas because of the difficulty of accurately depicting estuarine zones using salinity measurements without extensive data spanning channel depth and width, and variability with tides, seasons, and riverine flows.

The Regional Board's definition of how salt and freshwater objectives/ standards will be applied in estuarine waters was part of the 1995 Basin Plan amendments (p. 4-13, first column--attached). Those amendments have been formally approved by all of the appropriate state agencies and have been submitted to EPA for final approval.

We recommend that EPA add a provision to the proposed rulemaking that indicates the primary decision for whether waters are classified as estuarine should be based on the presence of estuarine organisms for any significant period of time and the secondary decision based on salinity measurements. In addition, we request that EPA specifically exclude the proposed federal definition of estuarine waters for implementation of federally promulgated standards within the San Francisco Bay Region (or formally approve the 1995 Basin Plan amendments and indicate that Basin Plan provisions take precedence over provisions in this proposed rule).

Response to: CTR-016-004

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Comment ID: CTR-035-030  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97

Subject Matter Code: C-15 Salinity

References:

Attachments? N

CROSS REFERENCES

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Comment: pp. 42183-42184 -- Applicability of Freshwater or Saltwater Aquatic Life Criteria in Estuarine Environments The proposed regulation includes a provision for estuarine waters where the salinity is between 1 and 10 parts per thousand, whereby the more stringent of the freshwater and saltwater criteria would apply unless EPA approves the application of the freshwater or saltwater criteria based on a biological assessment. We challenge the basis for the following rationale put forth in the Preamble: "In the brackish water transition zones of estuaries, there generally will be a mix of freshwater and saltwater species. Generally, therefore, it is reasonable for the more stringent of the freshwater or saltwater criteria to apply." We find this conclusion to be questionable; it is equally possible that the saltwater or freshwater species that occur in brackish environments may be more tolerant rather than more sensitive. We recommend that EPA include these procedures for determining appropriate criteria for those instances where salinity is between 1 and 10 parts per thousand as guidance in the Preamble, rather than placing them in the rule itself.

Response to: CTR-035-030

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Comment ID: CTR-038-011

Comment Author: Sonoma County Water Agency

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-15 Salinity

References:

Attachments? Y

CROSS REFERENCES

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Comment: 10. EPA should allow permit authorities flexibility in establishing saltwater criteria where the salinity is between 1 and 10 parts per thousand. The proposed rule states that for these salinities the more restrictive of the salt and freshwater criteria should apply. This is unnecessary and has the effect of preempting the permit authority's flexibility to apply the most appropriate criteria in any given circumstance. In preempting the permit authority's flexibility, it conflicts with numerous statements in the Preamble and the economic analysis, which point to the considerable flexibility the State has in implementing the criteria.

Response to: CTR-038-011

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Comment ID: CTR-054-011

Comment Author: Bay Area Dischargers Assoc.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97  
Subject Matter Code: C-15 Salinity

References:

Attachments? Y

#### CROSS REFERENCES

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Comment: EPA should allow permit authorities flexibility in establishing saltwater criteria where the salinity is between 1 and 10 parts per thousand. The rule states that for these salinities the more restrictive of the salt and freshwater criteria should apply. This is unnecessary and has the effect of preempting the permit authority's flexibility to apply the most appropriate criteria in any given circumstance. In preempting the permit authority's flexibility, it conflicts with numerous statements in the Preamble and the economic analysis, which point to the considerable flexibility the State has in implementing the criteria.

Response to: CTR-054-011

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Comment ID: CTR-058-004

Comment Author: Western States Petroleum Assoc

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-15 Salinity

References:

Attachments? Y

#### CROSS REFERENCES

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Comment: 3. Freshwater/saltwater. WSPA supports giving permit writers and other regulators flexibility when selecting the appropriate criteria when waters may not be clearly salty or clearly fresh.

EPA proposes to require using the more stringent of freshwater or saltwater criteria when the receiving water is neither >10 ppt salinity 95% of the time (i.e., clearly salty) nor <1 ppt salinity 95% of the time (i.e., clearly fresh). This approach is needlessly inflexible. Permit writers and others should be allowed to judge which criterion is appropriate.

For example, there may be many cases when the freshwater criterion is lower, but the receiving water is salty enough that no freshwater aquatic life could survive. Thus, a freshwater criterion to protect species that are not there is invalid, inappropriate, and potentially wasteful of the state's resources if it causes point sources to invest in treatment merely for treatment's sake. Conversely, a saltwater criterion might be the lower value in a receiving water which is never salty enough to support marine life. A similar argument applies.

Lastly, it will probably be common to find receiving waters which may support both marine and freshwater organisms and in such cases the permit writer would use the more restrictive criterion. Each receiving water should be evaluated based on the facts and the permit writer should be allowed to exercise their professional judgment.

EPA trusts permit writers to select different criteria based on seasonal concerns. There is no reason not

to allow them to select the appropriate criteria I in the case of ambiguous salinity as well.

Response to: CTR-058-004

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Comment ID: CTR-059-011

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-15 Salinity

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES

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Comment: Applicability of Freshwater/Saltwater Criteria in Estuarine Environments

We disagree with EPA's proposal in the Preamble to apply the more stringent of the freshwater and saltwater criteria when waters are in an intermediate salinity range or when salinity fluctuates diurnally due to tidal action. We believe a more valid approach is for the State to approve the choice of criteria based on a biological assessment. There may be many cases when the freshwater criterion is lower, but the receiving water is salty enough so that no freshwater aquatic life could survive there. Under this scenario, the application of a freshwater criterion to protect species that are not present is inappropriate and a waste of resources should it trigger the need for additional control efforts. A similar argument applies in cases where a saltwater criterion is used for a receiving water which is never salty enough to support marine life. Each receiving water should be evaluated based on the facts and the permit writer should be allowed to exercise his professional judgment in selecting the appropriate criteria and establishing water quality-based effluent limits. We recommend that EPA delete this provision from the Preamble, and if necessary develop guidance on determining appropriate criteria for those instances where salinity is between 1 and 10 parts per thousand.

Response to: CTR-059-011

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Subject Matter Code: C-16 SDWA

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Comment ID: CTR-025-001a

Comment Author: Metro. Water Dist. of So. Cal.

Document Type: Water District

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-16 SDWA

References:

Attachments? Y

CROSS REFERENCES C-20

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Comment: Proposed California Toxic Rule

The Metropolitan Water District of Southern California (Metropolitan) appreciates this opportunity to comment on the U.S. Environmental Protection Agency's (U.S.EPA) proposed California Toxics Rule(CTR). Metropolitan, through its 27 member agencies, supplies nearly 60% of the drinking water used by approximately 16 million people living in the six-county region of Southern California. Our sources of supply are surface waters from Northern California and the Colorado River.

The water quality criteria proposed in the CTR are of critical importance to Metropolitan and other drinking water suppliers. These criteria create the basis for source water protection activities which are the first line of defense for ensuring a safe drinking water supply. Further, the criteria help protect aquatic species, including the unique aquatic resources of the Bay-Delta. The health of the Bay-Delta ecosystem and waters tributary to the Delta is linked to the amount of water available for export and thus directly affects water supply reliability of the exporting water agencies such as Metropolitan. Lastly, the CTR criteria affect the ability of water suppliers to operate and maintain their facilities.

Metropolitan recognizes that the CTR is only required to address the Clean Water Act's "priority pollutants". We note, however, that many of the drinking water contaminants regulated under the Federal and/or California Safe Drinking Water Acts (SDWA) are not among the priority pollutants. Table I lists the drinking water chemical constituents regulated under the California SDWA which are not priority pollutants. (The California SDWA regulates a broader set of contaminants than the Federal SDWA and provides the appropriate regulatory comparison since the CTR pertains solely to California.) Drinking water beneficial uses cannot be fully protected without water quality criteria for all California SDWA regulated contaminants. Metropolitan requests that U.S. EPA consider including human health criteria for the contaminants listed in Table I as part of the CTR.

Response to: CTR-025-001a

The scope of today's rule is to establish numeric criteria to bring California into compliance with CWA Section 303(c)(2)(B). Section 303(c)(2)(B) requires adoption of numeric criteria for priority toxic pollutants contained in CWA Section 307(a) for which EPA has issued Section 304(a) criteria guidance the discharge or presence of which could reasonably be expected to interfere with the designated uses of state waters. The promulgation of pollutants that are not identified as priority toxic pollutants (i.e, those pollutants that are not contained in the CWA Section 307(a) list) are outside of the scope of today's rule.

While EPA agrees that there may be other pollutants that adversely impact environmental protection,

EPA notes that states do have the authority to develop and adopt criteria for pollutants that are not contained on the 307(a) list in order to protect the designated uses of their waters. The Water Quality Standards Regulation (see 40 CFR 131) requires all states, including California, to adopt criteria that provide sufficient coverage to protect the designated uses of their waters. Furthermore, where a state has not adopted sufficient coverage of numeric criteria to protect the designated uses, the state may utilize its narrative criteria to derive criteria for pollutants to supplement the numeric criteria.

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Comment ID: CTR-025-002b  
Comment Author: Metro. Water Dist. of So. Cal.  
Document Type: Water District  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-16 SDWA  
References:  
Attachments? Y  
CROSS REFERENCES C-17a

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Comment: For California SDWA regulated contaminants which are also priority pollutants, the human health water quality criteria proposed under the CTR and existing California SDWA primary Maximum Contaminant Levels (MCLs) are not always consistent. While CTR criteria apply to source waters and drinking water MCLs apply to finished drinking water, Metropolitan urges that U.S. EPA ensure greater consistency between these regulatory levels.

Table 2 identifies the priority pollutants which have California SDWA primary MCLs and for which the CTR either does not establish any human health criteria or the CTR human health criteria exceed the California SDWA primary MCL. Metropolitan requests that U.S. EPA set the CTR human health criteria for the contaminants in Table 2 at levels not to exceed the California SDWA MCL.

Response to: CTR-025-002b

When multiple criteria apply to a waterbody, the most stringent criterion governs. For instances where California has adopted an MCL as a water quality standard that is more stringent than criteria contained in the final CTR, the MCL would provide the basis for protecting the drinking water use.

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Comment ID: CTR-025-003b  
Comment Author: Metro. Water Dist. of So. Cal.  
Document Type: Water District  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-16 SDWA  
References:  
Attachments? Y  
CROSS REFERENCES C-17a  
C-12a

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Comment: Human health water quality criteria for a number of other priority pollutants are at levels significantly below the corresponding California SDWA MCL. While Metropolitan favors a margin of safety between human health-water quality criteria and the SDWA MCL, significant differences between these two regulatory requirements can create problems in the course of maintenance of drinking water facilities.

For example, water utilities need to periodically "de-water" their lines as part of routine maintenance. The de-watering of distribution lines transporting treating drinking water results in discharges containing trihalomethanes (THMs). The CTR proposes human health criteria for each of the four compounds comprising the THM classification. The total limit under the CTR for THMs as a group is 11 ug/L, significantly below the California SDWA MCL of 100 ug/L as well as the proposed level of 80 ug/L for Stage 1 of the Disinfection/Disinfectant By-Products Rule. Thus, the discharge of water that meets California SDWA standards could potentially violate CTR human health criteria if that water is discharged to a source of drinking water supply. Metropolitan requests that EPA establish CTR human health criteria for THMs consistent with the California SDWA MCLs for THMS.

Response to: CTR-025-003b

See response to CTR-025-003b.

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Comment ID: CTR-025-004b

Comment Author: Metro. Water Dist. of So. Cal.

Document Type: Water District

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-16 SDWA

References:

Attachments? Y

CROSS REFERENCES C-02b

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Comment: The proposed CTR freshwater aquatic life criteria for copper are also problematical for many drinking water suppliers. Copper algaecides are a necessary element of algal control strategies for drinking water reservoirs and conveyances. Even with a comprehensive reservoir management program based on immunological principles, copper algaecides need to be part of the algal control arsenal. Algal growth, if uncontrolled, can lead to unacceptable levels of trihalomethanes (THMS) in treated water supplies, among other impacts.

The CTR proposes freshwater aquatic life criteria for copper which could severely hamper the ability of drinking water suppliers to use copper algaecides. The dosage of these algaecides which is effective for controlling algal growth could lead to periodic exceedances of the copper freshwater criteria. Yet, use of copper algaecides is sometimes necessary to protect drinking water beneficial uses, and there is currently no economically feasible alternative available. Drinking water suppliers have the difficult task of meeting conflicting requirements to protect drinking water beneficial uses while ensuring that aquatic life criteria for copper are met.

Response to: CTR-025-004b

See responses to CTR-020-018 and CTR-025-002a.

EPA believes that discharges can meet both the requirements of the Safe Drinking Water Act (SDWA) and the Clean Water Act (CWA) after the CTR is promulgated. EPA believes that any final limits for copper would be feasible to meet because it is unlikely that a discharger would receive criteria end-of-pipe limits due to the dilution available in the receiving stream, as well as other factors taken into account, when translating a criterion into a water quality criteria-based effluent limit. EPA acknowledges that controlling trihalomethanes is important, but does not believe it is incompatible with protecting aquatic life in the stream. EPA is including the freshwater copper criteria in today's rule to ensure adequate protection of aquatic organisms in California. EPA also notes that there are some flexibilities and regulatory relief mechanisms that California may exercise to assist dischargers in meeting their permit limits for the criteria included in today's rule. (See preamble discussion on E.O. 12866).

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Comment ID: CTR-025-006b

Comment Author: Metro. Water Dist. of So. Cal.

Document Type: Water District

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-16 SDWA

References:

Attachments? Y

CROSS REFERENCES B

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Comment: Some of the concerns noted above could be addressed through the implementation provisions of the CTR. As you know, the State Water Resources Control Board has just made available for public review the Proposed Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (Proposed ISWP/EBEP Policy), the implementing document for the CTR. Because of the length of the document (several hundred pages) and the fact that it has only recently become available, there has been insufficient time for thorough review. Yet, this document is crucial to understanding the practical impact of the CTR.

Metropolitan strongly requests that U.S. EPA extend the comment period on the CTR to December 10, 1997, the end of the comment period for the Proposed ISWP/EBEP Policy. This would allow drinking water suppliers and others affected by the CTR to evaluate the CTR in the context of its implementation. Without workable implementation provisions, the operational and economic impacts on drinking water suppliers could be significant and may need to be taken into account in the CTR. If the comment period is not extended, we ask that U.S. EPA fully consider the impacts of the freshwater aquatic life criteria on the operation and maintenance activities of drinking water suppliers and the effect on water reclamation activities and to modify the CTR, as necessary, so that these activities can continue to be undertaken in an economically feasible manner.

The CTR forms the backbone of the water quality regulatory process and Metropolitan urges U.S. EPA to review the proposed criteria in light of regulatory requirements of the California/Federal SDWA and the operating and maintenance requirements of drinking water suppliers. If you have any questions regarding Metropolitan's comments, please feel free to call Marcia Torobin of my staff at (213) 217-7830.

Response to: CTR-025-006b

See responses to CTR-025-002b, CTR-025-004b.

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Subject Matter Code: C-17 Methodologies

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Comment ID: CTR-061-005b  
Comment Author: G. Fred Lee & Associates  
Document Type: Academia  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-17 Methodologies  
References:  
Attachments? Y  
CROSS REFERENCES I-03

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Comment: Additional Comments

Presented below are some specific comments on statements made in the proposed CTR Federal Register.

Page 42160, third column, near the bottom, municipal stormwater dischargers should be added to the list of NPDES dischargers who have an interest in this rule. If anything, they probably will be affected more than any other entity.

Page 42161, third column, first paragraph, states,

"Numeric criteria for toxic pollutants allow the State and EPA to evaluate the adequacy of existing and potential control measures to protect aquatic ecosystems and human health. Numeric criteria also provide a more precise basis for deriving water quality-based effluent limitations in National Pollutant Discharge Elimination System (NPDES) permits to control toxic pollutant discharges."

That statement is somewhat unreliable and misleading.

While it is bureaucratically simpler for regulatory agencies to numerically compare concentrations found in an effluent or in ambient waters with a chemical concentration-based water quality criterion, the claim made in the quoted statement is not necessarily true. In fact, rarely is the exceedance of numeric criteria a reliable basis for assessing the impacts of constituents on human health or the environment. While it may be more precise, it can be highly inaccurate. This is one of the areas that needs to be corrected by the US EPA where biological effects-based approaches are used, rather than chemical-based approaches for regulating such impacts as aquatic life toxicity for potentially toxic constituents.

Response to: CTR-061-005b

EPA agrees that storm water dischargers may be affected by this rule. EPA does not agree that application of numeric criteria, after adjustment by the site-specific water-effect ratio provided by the rule, would rarely be reliable. Also see response to CTR-020-006.

In addition, EPA believes that for the regulated community, the chemical-specific approach offers the advantage of allowing the permittee to focus immediately on a single contaminant for the purposes of designing effluent treatment. In contrast, whole effluent toxicity often leads to a facility conducting fairly extensive investigations to identify the cause of adverse effects on the tested organisms and to

develop an effective approach to reducing the effects.

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Comment ID: CTR-061-008  
Comment Author: G. Fred Lee & Associates  
Document Type: Academia  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-17 Methodologies  
References:  
Attachments? Y

**CROSS REFERENCES**

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Comment: Page 42162, third column, last paragraph, states,

"The forward to that guidance noted EPA's two-fold water quality based approach to controlling toxic pollutants: chemical specific numeric criteria and biological testing in whole effluent or ambient waters to comply with narrative 'no toxics in toxic amounts' standards. "

That statement was published in 1983 in the US EPA Water Quality Standards Handbook. While the significant technical deficiencies of this two-fold approach have been known now for over 15 years, the Agency has still not addressed the over-regulation that occurs from trying to use chemical concentration-based criteria to regulate biological impacts associated with aquatic life toxicity and excessive bioaccumulation of hazardous chemicals in aquatic life tissue.

Response to: CTR-061-008

EPA does not agree. EPA believes that the rule's provision for site-specific adjustments to criteria addresses the problem of unnecessarily stringent chemical criteria. See response to CTR-061-005b. With respect to bioaccumulative chemical risks, EPA believes that the best way to monitor bioaccumulative chemicals is to measure the concentration in the portions or tissues of aquatic biota that are consumed by humans and wildlife.

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Comment ID: CTR-061-009  
Comment Author: G. Fred Lee & Associates  
Document Type: Academia  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-17 Methodologies  
References:  
Attachments? Y

**CROSS REFERENCES**

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Comment: Page 42163, first column, last paragraph, states,

"Congress was frustrated that states were not using the numerous CWA section 304(a) criteria guidance that EPA had and was continuing to develop, to assist states in controlling the discharge of priority toxic pollutants. "

The reason the states were not adopting those criteria was that the criteria as implemented tend to over-regulate. The criteria do not properly consider how chemical constituents impact beneficial uses. The US EPA's adjustments of the criteria do not properly incorporate the aqueous environmental chemistry of the constituents in developing site-specific criteria. Basically, there is still a significant problem with how the US EPA developed criteria relative to how they are implemented at the state and local level. I was involved as a US EPA invited peer-reviewer of the criteria development approach, as well as several criterion documents that became part of the "Gold Book" criteria. I am, therefore, familiar with this topic area and know that it was never the intent of those who helped develop those criteria to have them mechanically implemented, as is being done today, into discharge limits. This leads to significant over-regulation and significant waste of public and private funds in construction of unnecessary treatment works beyond those that would be needed to protect the designated beneficial uses of a waterbody.

One of the fundamental problems that exist today is the US EPA's Independent Applicability Policy. That Policy was adopted without public review in the early 1990s. It establishes that chemical-specific criteria must be met, even if appropriately conducted biological assessments of toxicity, bioaccumulation, etc. show that the chemical-specific criteria are technically invalid for the particular situation of concern. This is a fundamentally flawed approach that should be terminated. This issue has been discussed in a paper, "Independent Applicability of Chemical and Biological Criteria/standards and Effluent Toxicity Testing" (Lee and Jones-Lee, 1995). While the US EPA criteria and standards group in Washington, D.C. has indicated that it is proposing to change the Independent Applicability Policy, the proposed changes as discussed thus far are not adequate to eliminate the fundamentally technically flawed aspects. The purpose of water quality criteria and standards is to protect designated beneficial uses, which for aquatic life means to prevent toxicity as might be measured by the kinds of tests that were used to establish the criteria. It is inappropriate to require achieving chemical-specific criteria as they currently exist, in waters in which there is no toxicity; that Independent Applicability Policy is obviously fundamentally flawed and should not be perpetuated.

Response to: CTR-061-009

EPA does not agree that the criteria, when adjusted for site-specific factors as provided by the rule, do not properly consider how chemical constituents impact beneficial uses. In setting criteria, EPA considers the scientific evidence of the toxicity of a pollutant. EPA stands behind the judgements made in its derivation of the criteria, and believes these judgements are reasonable.

The independent application policy is outside the scope of this rule. Nevertheless, independent application means that in stream biological monitoring and ambient or effluent toxicity testing can be used in a scientifically sound procedure for site-specific modification of the chemical criteria, but may not be used as a rationale simply to suspend implementation of the criteria.

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Comment ID: CTR-061-010

Comment Author: G. Fred Lee & Associates

Document Type: Academia

State of Origin: CA

Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-17 Methodologies  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: Page 42168, first column, first paragraph, states,

"EPA's guidelines are designed to derive criteria that protect aquatic communities by protecting most of the species and their uses most of the time, but not necessarily all of the species all of the time (1985 Guidelines, page 1). EPA 's 1985 Guidelines attempt to provide a reasonable and adequate amount of protection with only a small possibility of substantial overprotection or underprotection. "

While the statement is appropriate for under-protection for the regulated chemicals, it is inappropriate for over-protection. Many of the water quality criteria tend to grossly over-protect based on the way they are implemented. This applies even to metals implemented as salt species.

Response to: CTR-061-010

EPA does not believe that the rule's provisions tend to grossly over-protect. The rule includes some provisions to modify criteria concentrations, averaging periods, and allowable exceedance frequencies to avoid either over- or under-protection.

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Comment ID: CTR-061-011  
Comment Author: G. Fred Lee & Associates  
Document Type: Academia  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-17 Methodologies  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: Page 42168, first column, first paragraph, the statement, "The approach EPA is using is believed to be as well balanced as possible, given the state of the science." is inappropriate. The US EPA has still not graduated to the level of science that was present as part of the National Academies of Science and Engineering "Blue Book" "Water Quality Criteria" which focused on directly measuring toxicity of chemicals rather than trying to estimate toxicity through chemical-specific criteria.

Response to: CTR-061-011

EPA stands behind its technical assumptions made in the derivation of its criteria, and believes the resulting criteria are reasonable. EPA believes the calculation of water quality criteria for aquatic life based on toxicity data for aquatic species is appropriate. Congress further endorsed this approach in the 1987 amendments that added section 303(c)(2)(B) to the CWA.

EPA does not believe that chemical-specific criteria are inconsistent with the 1972 Blue Book approach. The Blue Book recommended numerous chemical-specific criteria, where available toxicity data were sufficient to support them.

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Comment ID: CTR-096-001b  
Comment Author: City of Modesto  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-17 Methodologies  
References:  
Attachments? N  
CROSS REFERENCES I-03

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Comment: Thank you for the opportunity to comment on the proposed California Toxics Rule. The City's comments are related to five main concepts:

1. The numerical standards are ambiguous or incomplete to address the variety of operating conditions under which discharges to waters of the United State occur.

Specifically, the City submits the following comments:

A. California's receiving waters have a very wide diversity of hydraulic and environmental conditions. The numerical standards do not take into account the wide range of rainfall patterns, storm durations, irrigation flows and power generation flows that are the current aquatic habitat. California's rivers are highly regulated, highly managed. The proposed regulations neither address this variety, nor provide a means by which numerical standards can be readily developed to address such variety.

B. The California Toxic Rule presents new water quality standards for the State of California. This rule presents water quality standards for all water bodies within the state. Water quality standards as presented in this rule would apply to all environmental conditions (dry and wet weather). During wet weather, conditions in the receiving streams can be extremely variable due to the quality and quantity of stormwater. Treatment plants generally have hydraulic capacity to process twice the average dry weather flow received. Water quality standards were developed based on dry weather conditions. Therefore, numerical water quality standards should not need to be achieved during storm events. If water quality standards need to be achieved during storm conditions, it is suggested that new standards be developed to account for the changes in environmental conditions.

Response to: CTR-096-001b

The criteria specified in the rule are adequate across California because they are designed to apply under all environmental conditions. EPA does not agree that its criteria concentrations were based on dry-weather conditions. Most of concentrations are based on laboratory toxicity tests. EPA agrees that its numerical exceedance frequency and design flow specifications are based on dry-weather conditions. Nevertheless, the rule provides for alternative development of averaging periods and exceedance frequencies, thereby allowing the extension of their applicability to wet-weather conditions. In addition, the Rule provides for site-specific modifications of criteria concentrations, to account for a site's water

quality characteristics.

The criteria specified in the rule are adequate across California because they are designed to apply under all environmental conditions. EPA does not agree that its criteria concentrations were based on dry-weather conditions. Most of concentrations are based on laboratory toxicity tests. EPA agrees that its numerical exceedance frequency and design flow specifications are based on dry-weather conditions. Nevertheless, the rule provides for alternative development of averaging periods and exceedance frequencies, thereby allowing the extension of their applicability to wet-weather conditions. In addition, the Rule provides for site-specific modifications of criteria concentrations, to account for a site's water quality characteristics.

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Subject Matter Code: C-17a Methodologies Human Health

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Comment ID: CTR-002-002b

Comment Author: Comm. for a Better Environment

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-17a Methodologies Human Health

References:

Attachments? Y

CROSS REFERENCES C-14

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Comment: I. TOXIC POLLUTANTS THREATEN PUBLIC HEALTH AND SAN FRANCISCO BAY.

Toxic pollution causes harm in San Francisco Bay. Species of bivalve shellfish, plankton and phytoplankton that are especially vulnerable to toxic trace elements such as copper are decimated in its southern reach though they thrive in comparable estuaries with less metals pollution. (\*1) (\*2) Mounting evidence suggests its sediment is toxic to some aquatic life.(\*3) Extensive research strongly suggests that PCBs and PAHs released to the Bay negatively effect reproduction in starry flounder. (\*4) Reproductive effects are also correlated with PCBs in Bay cormorant eggs, Bay harbor seals have PCBs levels twice those associated with immunotoxicity and a disease epidemic that decimated a European population of this species.(\*5) Health advisories are in effect because dioxin, PCBS, mercury, chlordane, DDT, dieldrin, and selenium contaminate Bay food resources eaten by the public (\*6) (\*7)

Public health threats from toxics in the food chain are of particular concern. A recent count found approximately 270,000 fishing licenses were issued to Bay Area residents. Surveys by CBESAFER!, the Save San Francisco Bay Association, and the Asian Pacific Environmental Network show that many people fish the Bay regularly to supplement their families' diet, that some people eat up to a maximum of a pound of fish per day, and that the majority of those who eat their catch regularly are people of color. [See attachment (\*8)] A pound of fish per day is about 480 oz./month, sixty times the 8 oz./month "safety" cutoff for cancer and slow learning in the state's advisory.(\*6)

In addition to these severe environmental health and justice problems, pollutant monitoring of the Bay is far from comprehensive, and undetected problems are likely. Indeed, EPA acknowledged that designated uses of the Bay are threatened or impaired by toxic pollutants when it named the Bay as a "toxic hot spot" under Section 304(l) of the Clean Water Act.(\*9)

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(\*1) U.S. Geological Survey, 1992. Letter from Samuel N. Luoma, Ph.D., to Seven R. Ritchie, Executive Officer, Regional Water Quality Control Board. August 24, 1992.

(\*2) Karras, 1992. Comparison of copper in waters of the southern reach of San Francisco Bay and ten other estuaries. Communities for a Better Environment (CBE). July, 1992.

(\*3) San Francisco Estuary Institute, 1997. Regional monitoring program for trace substances 1995 annual report. Excerpts including pages 105, 3, and A-17 through A-24 showing the percentage of sediment bioassays (larval bivalve and Eohaustorius tests) that were toxic (less than 80% of control

value) at RMP stations from 1991-1996, sampling stations, and dissolved and total metal, and PAH concentrations in San Francisco Bay waters.

(\*4) Spies et al., (2 papers), 1988: Effects of organic contaminants on reproduction of the starry flounder *Platichthys stellatus* in San Francisco Bay, I., Hepatic contamination and mixed-function oxidase (MFO) activity during the reproductive season. *Marine Biology* 98: 181-189; and II. Reproductive success of fish captured in San Francisco Bay and spawned in the laboratory. *Marine Biology* 98: 191-200. Excerpt including abstracts.

(\*5) Kopec and Harvey, 1995, Toxic pollutants, health indices, and population dynamics of harbor seals in San Francisco Bay, 1989-1992. Moss Landing Marine Laboratories Technical Publication 96-4. ISSN 1088-2413. October, 1995. Excerpt regarding PCBs levels as compared to European seals in which a disease epidemic and population crash was observed.

(\*6) Cal. EPA, 1994. Health advisory on catching and eating fish, interim sport fish advisory for San Francisco Bay. December, 1994.

(\*7) California Department of Health Services, 1994. Health Warnings, Contained in the 1994 California Hunting Regulations for Resident and Migratory Game Birds issues by the state's Fish and Game Commission, Sacramento, Calif. Excerpt including health warning for selenium.

(\*8) Previously unpublished data from a 1993-4 survey of 500 anglers using South and Central San Francisco Bay by Communities for a Better Environment-SAFER!; Save San Francisco Bay Association, 1995 (excerpt); West, 1992; West et al., 1992; Peterson et al., 1994; and USEPA, 1994.(excerpt of a draft report discussing and citing work by EPA, Wolfe and Walker (1987), Svensson (1991) and others. Includes analysis of the evidence..

(\*9) EPA, 1990. Decision of the United States Environmental Protection Agency on listing under section 304(l) of the Clean Water Act regarding the state of California. Excerpt including pages listing San Francisco Bay waters as a "toxic hot spot."

Response to: CTR-002-002b

EPA acknowledges the impacts of pollution in the San Francisco Bay. Regarding the issue of fish consumption, refer to response to CTR-002-002a on this same issue.

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Comment ID: CTR-002-004a

Comment Author: Comm. for a Better Environment

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-17a Methodologies Human Health

References:

Attachments? Y

CROSS REFERENCES C-17b

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Comment: B. The criteria do not control pollution that harms fishing, and aquatic life.

Adoption of EPA's proposed criteria values will result in less control of toxic pollutants that exceed state criteria values in large parts of San Francisco Bay. Examples of this problem are shown in tables 3 through 6 for mercury, copper, nickel and PAH measured in 1995 at monitoring stations shown on a map of San Francisco Bay (Figure 1). The EPA-proposed criteria would allow:

- mercury violations triggered by state criteria values through much of the northern reach of the Bay. EPA-proposed criteria trigger violations only at the Petaluma river mouth and in South Bay. Bay-wide, 8 of 15 state criteria-triggered violations (53%) are allowed by EPA criteria.
- copper violations triggered by state criteria (4.9 ug/L total) throughout the northern reach of the Bay. EPA'S 3.1 ug/L dissolved value triggers violations only in the Petaluma river and in' South Bay. Bay-wide, 15 of 25 state-triggered violations (60%) are allowed by EPA criteria,
- nickel violations triggered by state criteria throughout most of the northern and southern reaches of the Bay. EPA's 8.2 ug/L dissolved value triggers violations at the Petaluma river mouth and one South Bay slough. Bay-wide, 20 of the 22 water quality standards violations (91 %) triggered by the 7.1 ug/L criterion are allowed by EPA criteria.
- PAH violations triggered by state criteria at Coyote Creek and the Petaluma River mouth, EPA-proposed criteria trigger 4 violations for benzo(a)pyrene and indeno(1,2,3-cd)pyrene while state criteria trigger 40 violations for these compounds and 6 other PAHS.

Though EPA criteria do not control mercury except at the Petaluma River and in South Bay, a state human health advisory cites mercury contamination,(\*6) and demonstrates that mercury restricts fishing uses Bay-wide. A severe threat and possible harm to aquatic life of the Bay's entire southern reach is evidenced by reduced abundance of all species known to be most vulnerable to copper toxicity, while these same species thrive in otherwise similar estuaries with less copper and nickel pollution.(\*1) (\*2) EPA criteria do not control copper and nickel in most of this area. Nor do EPA criteria control PAHS which -- with PCBs -- cause toxic effects in starry flounder in Central Bay.(\*4)

Further, EPA'S proposed criteria include no criteria for 16 dioxin compounds that are included in the state dioxin criterion for TCDD equivalents.(\*10) (\*21) These 16 compounds are 6 dibenzo-paradioxins chlorinated in the 2,3,7, and 8 positions (except for 2,3,7,8-TCDD which is included in the EPA criterion), and 10 dibenzofurans chlorinated in the 2,3,7 and 8 positions. Under the state criteria, these 16 compounds and 2,3,7,8-TCDD are assigned toxicity equivalence factors as discussed in the proposed rule. Under the state criterion all these compounds are limited: if only 2,3,7,8-TCDD is present it cannot exceed 0.014 pg/L; if only OCDD is present it cannot exceed 14 pg/L; and if a mixture of dioxins is present the sum of their toxicities cannot exceed 0.014 pg/L. By failing to use toxicity equivalents and then failing to propose separate criteria for these 16 compounds, EPA is essentially deregulating 16 of the most toxic chemicals known to science even though these dioxins harm fishing uses, as shown by the health advisory discussed above. (\*6)

The EPA criteria do not control toxics that threaten and harm the Bay, fishing and public health.

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(\*1) U.S. Geological Survey, 1992. Letter from Samuel N. Luoma, Ph.D., to Seven R. Ritchie, Executive Officer, Regional Water Quality Control Board. August 24, 1992.

(\*2) Karras, 1992. Comparison of copper in waters of the southern reach of San Francisco Bay and ten

other estuaries. Communities for a Better Environment (CBE). July, 1992.

(\*4) Spies et al., (2 papers), 1988: Effects of organic contaminants on reproduction of the starry flounder *Platichthys stellatus* in San Francisco Bay, I., Hepatic contamination and mixed-function oxidase (MFO) activity during the reproductive season. *Marine Biology* 98: 181-189; and II. Reproductive success of fish captured in San Francisco Bay and spawned in the laboratory. *Marine Biology* 98: 191-200. Excerpt including abstracts.

(\*6) Cal. EPA, 1994. Health advisory on catching and eating fish, interim sport fish advisory for San Francisco Bay. December, 1994.

(\*10) California State Water Resources Control Board, 1991. California Enclosed Bays and Estuaries Plan; water quality control plan for enclosed bays and estuaries in California. 91-13WQ. April, 1991. Excerpt including adopted water quality criteria and definition of terms.

(\*21) California State Water Resources Control Board, 1997. Staff technical report, Division of Water Quality, Petitions of CBE, San Francisco BayKeeper, and Tosco Corporation for review of Order No. 95-138 of the San Francisco Bay Regional Water Quality Control Board. Office of Chief Counsel [OCC File Nos. A-983 and A-983(A)].

Response to: CTR-002-004a

See response to CTR-002-004b.

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Comment ID: CTR-025-002a

Comment Author: Metro. Water Dist. of So. Cal.

Document Type: Water District

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-17a Methodologies Human Health

References:

Attachments? Y

CROSS REFERENCES C-16

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Comment: For California SDWA regulated contaminants which are also priority pollutants, the human health water quality criteria proposed under the CTR and existing California SDWA primary Maximum Contaminant Levels (MCLs) are not always consistent. While CTR criteria apply to source waters and drinking water MCLs apply to finished drinking water, Metropolitan urges that U.S. EPA ensure greater consistency between these regulatory levels.

Table 2 identifies the priority pollutants which have California SDWA primary MCLs and for which the CTR either does not establish any human health criteria or the CTR human health criteria exceed the California SDWA primary MCL. Metropolitan requests that U.S. EPA set the CTR human health criteria for the contaminants in Table 2 at levels not to exceed the California SDWA MCL.

Response to: CTR-025-002a

With respect to the issue of pollutants where the MCL is more stringent than the CTR criterion, EPA has determined that the CTR criteria are appropriate. As background, the Agency agrees with the commenter that the SDWA Maximum Contaminant Levels (MCLs) and the ambient water quality criteria are not always consistent. There are several reasons why this may be the case. First, while water quality criteria are health-based values only, MCLs take into account availability of treatment technologies and associated costs, and the availability of analytical methods. Second, the methodologies between the two programs differ in numerous ways, including the way that carcinogens are handled, the selection of the risk level, the approach to accounting for exposure, and the fact that water quality criteria specifically account for fish exposure. Third, there are differences associated with the fact that the information that each criterion is based on at the time of development also varies. That is, criteria developed at different times for the same chemical may be based on different exposure data and/or toxicity studies. The MCLs also apply to the chemical concentration in public water supply distributed tap water, whereas water quality criteria are used to develop State standards which are then used with water transport models to derive permit limits for point source discharges. For a more detailed discussion on the reasons for differences between these two methodologies, refer to the Notice of Draft Revisions to the Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health (Federal Register, Vol. 63, No. 157, August 14, 1998). See also 63 FR 36742, 36775-36777 (July 7, 1998).

The Agency believes that for a given pollutant, the drinking water component of a water quality criterion should be consistent with the Maximum Contaminant Level Goal (MCLG) and is working to foster greater consistency between these two programs. Specifically, the Agency is currently revising the water quality criteria human health methodology, referenced above. Once finalized, EPA will revisit the methodology for deriving MCLGs, again, with a focus toward greater consistency.

The following policy is that recommended in the draft EPA methodology revisions when either water quality criteria have not been established or when the water quality criteria exceed MCL values. Although the use of MCLs is acceptable in the absence of 304(a) criteria, EPA is recommending that MCLs only be used when they are numerically the same as the MCLG and only when the sole concern is the protection of public water supply sources and not the protection of the CWA section 101(a) goal regarding fish consumption (e.g., where the chemically toxic form in water is not the form found in fish tissue and, therefore, fish ingestion exposure is not an issue of concern). Where consideration of available treatment technology, costs, or availability of analytical methodologies has resulted in MCLs that are less protective than MCLGs or water quality criteria, States and Tribes should consider using MCLGs and/or the health-based water quality criteria to protect water uses. Where fish consumption is an existing or potential activity, States and Tribes should ensure that their adopted human health criteria adequately address this exposure route. When fish consumption is a use, EPA recommends development of water quality criteria due to the fact that fish consumption and bioaccumulation are explicitly addressed. In all cases, water quality criteria should be set to ensure that all routes of exposure have been considered. EPA believes if water monitored at existing drinking water intakes has concentrations at or below MCLGs, then the water could be considered to meet a designated use under the CWA as a drinking water supply. In situations where a 304(a) criterion was less protective than an MCL, it is permissible to use the MCL as the criterion for segments designated as drinking water supplies. For carcinogens where the MCLG is equal to zero, States are encouraged to base water quality criteria at the drinking water intake on an acceptable cancer risk level (i.e., a level within the range of  $10^{-4}$  to  $10^{-6}$ ), to promote pollution prevention and anti-degradation.

The commenter has provided a short list indicating where some of the proposed CTR human health criteria are less stringent than the California MCLs. In some cases, the listed MCL has been developed by the State of California only - that is, there is no EPA national SDWA MCL (e.g., 1,3-dichloropropene, nickel). In some cases, California's MCL is more stringent than EPA's national SDWA MCL (e.g.,

benzene, vinyl chloride). However, where MCLs are more stringent than the CTR criteria, EPA has chosen not to revise the CTR number to make it the same as the MCL because the CTR criteria are adequate to protect the designated use.

As stated above, EPA is in the process of revising its water quality criteria human health methodology. EPA is currently reviewing public comments and is awaiting the results of a peer review on the published draft revisions. Again, as part of this effort, EPA intends to foster greater consistency between its drinking water and surface water programs, where appropriate.

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Comment ID: CTR-025-003a  
Comment Author: Metro. Water Dist. of So. Cal.  
Document Type: Water District  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-17a Methodologies Human Health  
References:  
Attachments? Y  
CROSS REFERENCES C-16  
C-12a

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Comment: Human health water quality criteria for a number of other priority pollutants are at levels significantly below the corresponding California SDWA MCL. While Metropolitan favors a margin of safety between human health-water quality criteria and the SDWA MCL, significant differences between these two regulatory requirements can create problems in the course of maintenance of drinking water facilities.

For example, water utilities need to periodically "de-water" their lines as part of routine maintenance. The de-watering of distribution lines transporting treating drinking water results in discharges containing trihalomethanes (THMs). The CTR proposes human health criteria for each of the four compounds comprising the THM classification. The total limit under the CTR for THMs as a group is 11 ug/L, significantly below the California SDWA MCL of 100 ug/L as well as the proposed level of 80 ug/L for Stage 1 of the Disinfection/Disinfectant By-Products Rule. Thus, the discharge of water that meets California SDWA standards could potentially violate CTR human health criteria if that water is discharged to a source of drinking water supply. Metropolitan requests that EPA establish CTR human health criteria for THMs consistent with the California SDWA MCLs for THMS.

Response to: CTR-025-003a

In general, EPA believes it is appropriate that water quality criteria are at levels below MCLs in consideration of the Agency's goals of pollution prevention. That is, ambient waters should not be contaminated to a level where the burden of achieving health objectives is shifted away from those responsible for pollutant discharges and placed on downstream users to bear the costs of upgraded or supplemental water treatment. However, there are numerous reasons why a water quality criterion may not be the same as an MCL. This is discussed in the response to CTR-025-002a.

Regarding the issue of the proposed human health criteria for trihalomethanes (THMs), the commenter has made an inappropriate comparison between the values in the CTR and the Stage I

Disinfection/Disinfectant By-Product (DDBP) Rule. The commenter has attempted to add the separate values proposed in the CTR for each individual THM and compare that total to the DDBP value, which represents total THMs. These values cannot be compared directly because the basis for their derivation is significantly different. The THM values in the CTR are based on four separate cancer potency factor values (i.e., q1\* values) and a chosen acceptable cancer risk level (specifically, a 10<sup>-6</sup> risk level), which were then both used in the water quality criteria equation (which includes factors for body weight, water ingestion, fish consumption, and bioconcentration) to derive the individual criteria values. The DDBP Rule that determined the MCL for total THMs - a composite value for all four THMs combined - was based on a weight-of-evidence approach that considered the available toxicological data, known epidemiological information on the incidence of disease associated with chlorinated drinking water (i.e., morbidity rates), information on the relative proportions and uncertainties in the composition of total THMs (including regional and seasonal variation, as well as other variables and their uncertainties) and technological feasibility. The MCLs were the output of an extensive "regulatory negotiation" between EPA and stakeholders. The approach used in the DDBP Rule is vastly different from the ambient water quality criteria calculations used for the CTR. Additionally, the water quality criteria derivations are health-based values only, whereas the MCLs include consideration of economic and feasibility issues, as was the case with the DDBP regulatory negotiation.

Regarding the commenter's concern for the periodic "dewatering" of utility lines, refer to the response to CTR-020-018.

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Comment ID: CTR-026-003b  
Comment Author: Cal. Department of Fish & Game  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-17a Methodologies Human Health  
References:  
Attachments? N  
CROSS REFERENCES C-17b

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### Comment: 3 . TOXICITY DATABASE USED TO DEVELOP CRITERIA

The CTR indicates that the criteria being proposed are based upon a review of the most recent literature and toxicity data bases. The DFG is concerned that the databases utilized by EPA may not be as comprehensive as they could be with respect to inclusion of toxicity studies on a wide variety indigenous species found in State waters. Furthermore, data included in such databases such as EPA's AQUIRE have been found, in some instances, to be less than acceptable. Obviously we would like to see the criteria based on the most recent and scientifically sound toxicity data available. The DFG believes that it would be beneficial to describe in more detail the literature and databases utilized by EPA in development of the proposed criteria.

Also a discussion on appropriate and acceptable methodologies for data collection needs to be provided. It is not only important that the databases utilized by EPA be as comprehensive as possible, with respect to the inclusion of toxicity studies on a wide variety of indigenous species found in State waters. It is also important to know how the data was developed so that it won't be misinterpreted. For example, DFG would prefer using data that was derived from sampling whole organisms rather than edible filets if

we were looking at bioaccumulation, biomagnification, or other types of food chain issues. Most predators don't limit their diet to only the edible portions of a prey organism. Sampling only the edible portions of an organism could lead to faulty conclusions.

Finally, with regards to the development of chronic toxicity standards or criteria based on a straight percentage of the determined acute toxicity level, we would like to participate in any process that attempts to establish chronic levels in that manner.

Response to: CTR-026-003b

Regarding the comment on comprehensive evaluation of toxicity data, refer to the response to CTR-026-003a. Regarding the comment on sampling, edible portions are relevant when deriving human health criteria. Therefore, the practice of sampling edible filets is appropriate. The commenter's statement on the use of whole organisms because "most predators don't limit their diet to only the edible portions of a prey organism" is not relevant because the aquatic life criteria derivation process does not rely on the use of BCFs.

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Comment ID: CTR-026-007b  
Comment Author: Cal. Department of Fish & Game  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-17a Methodologies Human Health  
References:  
Attachments? N  
CROSS REFERENCES C-14

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Comment: 7. HUMAN HEALTH CRITERIA

As you are aware the Department of Fish and Game is the trustee for the natural resources of the State and, as such we are not in an appropriate position to address human health issues. However, we would like to take this opportunity to make EPA aware of our concerns in two areas. The first issue deals with one component of the formula that was used to derive the human health criteria. Obviously, the human health criteria takes into account fish consumption rates, as well as what portion of the fish is consumed. The CTR indicates that the consumption rate utilized was 6.5 grams per day of fish tissue. This consumption rate, at least for the portion of the population that are subsistence fishermen, appears to be very low. If the human health criteria is to be adequately protective, this consumption rate should be revisited and a new rate developed to better protect these fishermen. Our second comment deals with the proposal to base criteria on fish tissue as opposed to water concentration. The DFG does not have a position with respect to this approach except to point out that compliance monitoring for fish tissue criteria may impact resources. This approach would mean an increased number of fish being collected for monitoring purposes which may impact fish resources. It may also impact the DFG's fiscal resources since we regulate scientific collection activity under which fish monitoring would fall.

Response to: CTR-026-007b

Regarding the issue of fish consumption, refer to the response to CTR-002-002a on this same issue.

Regarding the issue of basing the criteria on fish tissue versus water column concentrations, refer to the response to CTR-020-004b on this same issue.

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Comment ID: CTR-029-002a  
Comment Author: Center for Marine Conservation  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-17a Methodologies Human Health  
References:  
Attachments? N  
CROSS REFERENCES C-17b  
A  
C-22  
C-27  
C-29

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Comment: The Center for Marine Conservation (CMC) is a nationwide, nonprofit advocacy group dedicated to the conservation and enhancement of coastal and ocean life and resources. CMC submits these comments on behalf of its 16,000 members in California and over 120,000 members nationwide.

CMC applauds EPA's efforts to bring California into compliance with the Clean Water Act 303(c)(2)(B). Implementing numeric criteria that will protect the beneficial uses of California's waters is of great importance to the health of coastal and marine ecosystems, and so to CMC and its members. The reliance in many areas of the state on narrative criteria threatens the health of most of the state's waters, thereby impacting both human health and the health of the state's economy that relies on clean water.

While CMC strongly supports the swift adoption of an Enclosed Bays and Estuaries Plan and an Inland Surface Waters Plan that contain numeric criteria for toxic pollutants, CMC also is concerned that many of the specific criteria contained in the proposed rule are weaker than those contained in published guidance. CMC also believes that the proposed rule can better protect certain subpopulations from harm caused by consumption of contaminated fish and shellfish. Finally, CMC is concerned that the economic analysis of the proposed rule over-emphasizes costs and under-reports the many benefits of improving water quality throughout the state. These three points are reviewed below.

**In Light of Significant Threats to Water Quality, the Proposed Rule Should Contain the Most Stringent Criteria That Are Scientifically Defensible**

Many of the criteria in the proposed rule are weaker than criteria in current published guidance. The proposed rule summarily states that the difference between the proposed, weaker criteria and the published guidance documents is "insignificant"(\*4); however, in light of the current contamination problems in California's waters today, any move backwards, particularly when spread out over the state, must be viewed as significant.

Any weakening of the criteria should be subject to close scrutiny and the most rigorous analysis, which the proposed rule itself does not do. Among other things, the criteria in the proposed rule may be under protective because additive and synergistic effects were not considered; and because the effects on

wildlife, which can be particularly significant for bioaccumulative chemicals, were ignored.(\*5) In addition, the proposed rule contains dissolved rather than total recoverable metals criteria, despite the fact that EPA acknowledges that total recoverable metals criteria are "scientifically defensible" and that they are more protective than dissolved metals criteria because they consider "sediment, food-chain effects and other fate-related issues," rather than simply water column impacts.(\*6)

Clean Water Act section 303(c)(2)(B) mandates the development of numeric criteria that will "support such designated uses [that are adopted by the State]." The statistics available on the health of the state's waters indicates that their use already is significantly threatened or impaired by toxics. The strongest criteria supportable by science are necessary to reverse this trend and begin to restore the state's waters.

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(\*4) 62 Fed. Reg. 42159, 42168 (Aug. 5, 1997).

(\*5) Id. at 42168.

(\*6) Id. at 42172.

Response to: CTR-029-002a

Regarding the evaluation and protectiveness of the proposed criteria, the commenter states that many of the criteria in the proposed rule "are weaker than those contained in published guidance." However, EPA has updated its national criteria guidance from that previously published. The values proposed in the CTR are a part of that update and, therefore, there is now consistency with all criteria values [see 63 FR 68353-68364 (December 10, 1998)]. Regarding the issue of fish consumption, refer to the response to CTR-002-002a on this same issue.

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Comment ID: CTR-031-002b

Comment Author: Fresno Metro. Flood Ctrl Dist.

Document Type: Flood Ctrl. District

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-17a Methodologies Human Health

References: Letter CTR-031 incorporates by reference letter CTR-027

Attachments? N

CROSS REFERENCES F

C-17b

J

V

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Comment: 2. Since the preamble implies that CTR criteria may be applied in NPDES permits for municipal storm water dischargers as numeric effluent limitations, the proposed rule is flawed with regard to: a) setting attainable, scientifically valid criteria in a manner consistent with state and federal regulatory approaches; b) assessing the potential economic impact on the public served by municipal storm water dischargers; c) assessing environmental impacts pursuant to the National Environmental Policy Act and the Endangered Species Act; and d) providing for the coordinated review and evaluation of the proposed CTR in conjunction with the proposed State Implementation Plan. y

Response to: CTR-031-002b

With respect to comments about municipal stormwater discharges see response to CTR-013-003 (Category J; Stormwater Economics).

With respect to comments about the Endangered Species Act see response to CTR-031-002e (Category V; Collaborative Approach).

With respect to the comment about coordination with the State Implementation Plan see response to CTR-031-008b (Category V; Collaborative Approach).

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Comment ID: CTR-031-004a

Comment Author: Fresno Metro. Flood Ctrl Dist.

Document Type: Flood Ctrl. District

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-17a Methodologies Human Health

References: Letter CTR-031 incorporates by reference letter CTR-027

Attachments? N

CROSS REFERENCES C-17b

I

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Comment: If the proposed rule is carefully and sufficiently modified to affirm a commitment by EPA to effect only its Congressional authorization as established by CWA section 402(p), then EPA's failure to assess municipal storm water dischargers' ability to attain the proposed standards and associated economic and environmental impacts may be set aside at this time. However, if EPA persists in maintaining the CTR as drafted in this regard, the ambiguities presented in the preamble demand serious consideration and analyses as follows.

a. Many of the criteria are not attainable or scientifically valid with regard to municipal stormwater dischargers, nor is the proposed approach consistent with an appropriate delegation of authority to the State.

ii. Scientific Defensibility of Standards

Municipal storm water discharges require a uniquely different scientific as well as regulatory approach. The episodic nature of storm flow events; the huge variances in flow volume, rate, timing, concentrations, and loads; the variability in receiving waters; and organism tolerance for and recovery from episodic exposure need to be taken into account in developing standards.

In a July 1992 memorandum addressing a Combined Sewer Overflow/Wet Weather workshop, Tudor Davies, Director of EPA's Office of Science and Technology wrote: "Changes being considered in the aquatic criteria development methodology to enhance the scientific defensibility of the criteria would be applicable to both constant and to wet weather discharges. One such change undergoing consideration is a change in the duration and frequency of exposure assumptions to make criterion more toxicologically realistic.

EPA has begun this work and is apparently nearing completion. With EPA's own Science and Technology office recognizing the inadequacy of the current approach to setting criteria relative to wet weather discharges, it must be concluded any attempt to apply the CTR criteria to municipal stormwater system discharges is ill-founded and likely inconsistent with the CWA.

Response to: CTR-031-004a

See response to CTR-031-004c.

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Comment ID: CTR-037-003b

Comment Author: Hampton Roads Sanitation Dist.

Document Type: Sewer Authority

State of Origin: VA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-17a Methodologies Human Health

References:

Attachments? N

CROSS REFERENCES C-17b

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Comment: 3. EPA has deleted data from several databases without indicating the reason for the deletions. This introduces the same problem as that described in #2 above, and results in variability in how water quality criteria are developed. Additionally, stakeholders need to know why data is deleted so that these decision criteria can be used in the development of defensible site-specific criteria. EPA should provide their reasoning for deleting data that was once believed acceptable so that this same reasoning can be used to update current criteria and to develop new sound criteria.

Response to: CTR-037-003b

See response to CTR-037-003a (Category C-17b; Methodologies Aquatic Life).

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Comment ID: CTR-057-007

Comment Author: City of Los Angeles

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-17a Methodologies Human Health

References:

Attachments? N

CROSS REFERENCES

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Comment: Organics

In proposing criteria for toxic organic compounds, we urge the EPA to include considerations of net environmental benefit. We see a potential for stringent pollutant limits as a means of influencing

replacements in the service area by other, equally toxic constituents. We have seen this occur to varying extent for chromium, selenium, zinc and molybdenum, and feel that similar instances involving trace organics can occur as well. We support the EPA's intention to evaluate receiving-water background concentrations and provide credit as appropriate.

Response to: CTR-057-007

"Net environmental benefit" is not an appropriate concept for establishing ambient water quality criteria. Ambient water quality criteria, as articulated in CWA Section 304, are supposed to characterize "all identifiable effects" from individual pollutants. See response to CTR-042-007a (Category C-21; Legal Issues). Ambient water quality criteria define the maximum pollutant concentrations allowable in order to maintain a specific designated use. The concept of "net environmental benefit" can be incorporated into other aspects of water quality standards if a State or Tribe so chooses. Designated uses, variances, and antidegradation all allow for the balancing of water quality goals with community priorities. For example, a community may choose to downgrade the designated use for a waterbody to address exceedances of specific chemical criteria because remediation of contaminated sediments (in this case, the source of loading to the water column) through dredging would cause more harm to the biological community through habitat destruction although the chemical concentrations for individual pollutants would decrease as a result. The CTR does not affect California's flexibility with respect to designated uses, variances, and antidegradation.

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Comment ID: CTR-065-002b

Comment Author: Environmental Health Coalition

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-17a Methodologies Human Health

References:

Attachments? N

CROSS REFERENCES A

C-17b

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**Comment: PROPOSED RULE ALLOWS SIGNIFICANT AND UNACCEPTABLE INCREASES IN TOXIC POLLUTANT CONCENTRATIONS IN BAYS AND ESTUARIES**

Our initial review indicates that the proposed criteria for a number of toxic constituents are unacceptably high and will allow more pollution of bays and estuaries by several orders of magnitude. If adopted as proposed, the CTR will allow a 900% increase of dioxin, 140% increase of PCBS, 325% increase of mercury, 2760% increase of zinc, 23,000% increase of lead, and a stunning 430 million % increase for total PAH, some of the most problematic pollutants in San Diego Bay. The CTR only improves (i.e. strengthens) criteria for only 3 of 64 pollutants. This does not square with new studies that show reasons for concern about the synergistic and long-term effects of exposures to these toxic pollutants. In sum, the CTR proposes weaker criteria for 58% of the pollutants and no change for 37% of the criteria. This kind of action will not bring us closer to our goal of cleaner water containing healthier organisms in the future.

Response to: CTR-065-002b

See response to CTR-002-003 (Category C-24; Site-Specific Criteria).

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Comment ID: CTR-090-002a

Comment Author: C&C of SF, Public Util. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-17a Methodologies Human Health

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES C-24a

C-22

G-05

G-02

G-04

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Comment: There are many features of the proposed rule which we strongly endorse, specifically:

- \* the use of the latest IRIS values for human health criteria, it is essential that the criteria be based on the latest scientific and environmental information;
- \* recognition that the dissolved fraction of metals, rather than the total recoverable, better reflect the aquatic toxicity of metals;
- \* recognition that for certain metals (e.g. copper and zinc) ambient water chemistry is critical in determining toxicity thereby endorsing the Water Effects Ratio;
- \* recognition and strong endorsement of the multi-tiered mixing zones for acute, chronic and human health effects; and
- \* recognition of interim limits and compliance schedules as appropriate implementation strategies,

Response to: CTR-090-002a

EPA agrees with the comment and its endorsement of the rule.

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Comment ID: CTR-090-019

Comment Author: C&C of SF, Public Util. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-17a Methodologies Human Health

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

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Comment: Human health criteria - p 42175 - Human Health Criteria - These criteria are based on a hypothetical series of events. Each link in the series must be present for the presumed risk to occur at the levels used to set the criteria. The links assumed to be present in the criteria include: (1)

Non-degradation in the receiving water - Some regulated pollutants (various PAHs) rapidly break down in receiving waters.

(2) Continued presence in the receiving water at the level of discharge or at the calculated dilution level - Implementation plans and policies give no dilution credit or use very conservative dilution assumptions. As implemented in California, none of the dilution equations take into account far-field effect-, nor the time-averaging effects which in reality typically reduce concentrations to far below those assumed in the risk assessment. The result is as if we assumed that the human endpoint on the risk assessment only ate fish which lived within a few feet of the outfall.

(3) Bioaccumulation in fish or other higher organisms; non-degradation in these organisms - The bioaccumulation assumptions are based on the worst case bioaccumulation encountered in the scientific literature rather than the bioaccumulation actually taking place in commercial species in the waters in question- Not infrequently, tissue samples from food species indicate that less Bioaccumulation is taking place. Another complicating factor is that bioaccumulation factors are derived from steady-state conditions, whereas municipal discharges of chlorinated hydrocarbon carcinogens are usually episodic. Use of steady-state derived water concentration to tissue concentration relationships is especially problematic for wet-weather discharges, as these have durations measured in hours to days, whereas bioconcentration in mature (i.e. legal sized) fish occurs over weeks to months.

(4) Pervasive contamination - Ongoing consumption by humans of contaminated fish (or shellfish) with the level of contamination.

(5) Necessary safety factors - Assumed carcinogenicity or toxicity to humans at 10 or 100 times the frequency experienced by test animals. These safety factors are necessary but their overall effect is to significantly decrease the likely impact of the pollutant (i.e., shift a  $10E-6$  risk to  $10E-7$  or  $10E-8$ ). EPA's Cancer potency factors are based on an upper bound, i.e. 95 % percentile estimate of the slope.

(6) Non-threshold effects - Carcinogenicity is assumed to have no threshold mechanisms, i.e., there is no low level below which the human body can safely detoxify the carcinogen.

While the use of this chain of events and these assumptions are necessary to identify potential problems, the cumulative uncertainty creates too speculative a result to use for decisions regarding significant expenditures for remedial projects. Better sources of risk information are available, specifically, tissue samples from the organisms presumed to be carrying the risk to humans. What we propose is a three step process prior to controls being mandated for dischargers:

1. numerical criteria to identify potential risks.
2. site specific tissue samples of edible species to identify actual bioaccumulation (as has been done in San Francisco Bay with PCBs and other chemicals).
3. source assessment to determine if prospective controls on point sources provide meaningful reductions.

This approach is within EPA's mandate to set criteria and implement a permit program which meets the goals of the CWA.

San Francisco proposes that the designation of an appropriate level(s) be left to the state in its implementation documents.

Response to: CTR-090-019

EPA disagrees with the commenter that "... bioaccumulation assumptions are based on the worst case bioaccumulation encounter in the scientific literature ...". EPA has and will continue to use the best available science in the selection of the bioaccumulation data for the development of ambient water quality criteria. In the process of selecting bioaccumulation data, all published data are carefully evaluated and bioaccumulation factors are determined using all possible methods. The bioaccumulation data selected in this process for use in the development of water quality criteria represents the best synthesis and consensus of all available scientific information. The commenter also states that "... tissue samples from food species indicate that less bioaccumulation is taking place." However, no supporting information was provided nor were citations from the scientific literature provided. EPA disagrees with the commenter. EPA has and will continue to use the best available science in the selection of the bioaccumulation data for the development of ambient water quality criteria. The commenter further suggests that bioaccumulation factors developed using long term average concentrations in fish and the water are inappropriate for developing ambient water quality criteria for persistent bioaccumulative chemicals. EPA disagrees with the commenter. For human health, EPA uses lifetime consumption rates in setting acceptable doses/exposures for bioaccumulative chemicals and to be consistent with the dose/exposure basis, bioaccumulation factors must be developed using long term average concentrations as well. Regarding the commenter's statements on the chemical degradation of various PAHs, refer to the response to CTR-060-014.

Regarding the commenter's statements on risk assumptions, EPA uses risk methods consistent with published risk assessment guidelines that are available in both EPA reports and peer reviewed literature [e.g., Guidelines for Mutagenicity Assessment (Federal Register, Vol. 51, September 24, 1986), Final Guidelines for Developmental Toxicity Risk Assessment (Federal Register, Vol. 56, December 5, 1991), Integrated Risk Information System (IRIS) - On-line]. EPA acknowledges the commenter's proposed three-step process. When EPA promulgates criteria, it uses CWA Section 304(a) criteria guidance. EPA does not perform site-specific risk assessments; the Agency relies on protective assessments that apply to the nation as a whole. This is consistent with EPA's approach to the National Toxics Rule (NTR), of which this CTR is a part. A State or Tribe has the flexibility to utilize site-specific data when available in its assessments and decision-making process.

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Comment ID: CTR-095-001b  
Comment Author: M. Ruth Uiswander  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/02/97  
Subject Matter Code: C-17a Methodologies Human Health  
References:  
Attachments? N  
CROSS REFERENCES C-20  
C-21  
C-14

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Comment: In regard to the numeric water quality standards criteria for California surface water, they have been revealed by environmental groups to be insufficiently protective and environmentally unjust. The proposed new rules assume fish ingestion of 6.5 grams per day. In reality, consumption of fish in some communities can be as high as 1 pound per day. This level of consumption is especially likely among subsistence fishers.

Please prevent toxic pollution in California's bays by making more protective standards that consider all toxic pollutants and consider the fish consumption habits of subsistence anglers.

Response to: CTR-095-001b

Regarding the issue of fish consumption, refer to the response to CTR-002-002a on this same issue.

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Comment ID: CTR-097-001a  
Comment Author: Mark Shaw  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/03/97  
Subject Matter Code: C-17a Methodologies Human Health  
References:  
Attachments? N  
CROSS REFERENCES C-14

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Comment: I am writing to urge you to more stringent - and more protective - water quality standards for California surface water. The proposed standards are too weak and discriminatory in their effects.

Lastly, the proposed standards are discriminatory in their effects in that they assume consumption of only 6.5 grams of fish per day per person. Many poorer communities catch and eat fish for subsistence - as much as a pound per day per person (more than sixty what the EPA estimates!) placing them at greater risk. The standards should be set to protect everybody, including those who happen to be poor and/or eat a significant amount of fish.

Please set the standards to protect us all and move us closer to the goals of the Clean Water Act, that our waters be safely fishable and swimmable.

Response to: CTR-097-001a

Regarding the issue of fish consumption, refer to the response to CTR-002-002a on this same issue.

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Comment ID: CTR-099-001a  
Comment Author: Emil A. Lawton, Ph.D.  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/03/97  
Subject Matter Code: C-17a Methodologies Human Health

References:

Attachments? N

CROSS REFERENCES C-17b

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Comment: This letter is to comment on the water quality standards for California surface water. It is my strongly held opinion that the proposed standards do not meet the minimum legal requirements of protecting health, let alone other aspects of the environment. The numbers should be adjusted to lower MAC's by roughly an order of magnitude.

Response to: CTR-099-001a

EPA disagrees. EPA believes that the criteria are fully protective of aquatic life and human health. The comment offers no evidence that the criteria are not protective.

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Comment ID: CTR-102-001a

Comment Author: Bryan Gordon

Document Type: Citizen

State of Origin: CA

Represented Org:

Document Date: 10/10/97

Subject Matter Code: C-17a Methodologies Human Health

References:

Attachments? N

CROSS REFERENCES C-17b

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Comment: Please ensure that the Federal water quality standards provide the maximum protection for people as well as the animals that inhabit our state's waterways.

Thank you for protecting America's waterways and the Americans and American animals that come into contact with them.

Response to: CTR-102-001a

EPA acknowledges the comment.

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Comment ID: CTR-104-004b

Comment Author: Lucy Nelson, et. al.

Document Type: Citizen

State of Origin: CA

Represented Org:

Document Date: 10/15/97

Subject Matter Code: C-17a Methodologies Human Health

References:

Attachments? N

CROSS REFERENCES C-09a

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Comment: Increasing the limits on toxins means that we postpone the goals of the Clean Water Act to make U.S. water "fishable and swimmable". Any progress made will not be expanded toward making our waters cleaner and mediocre programs will be introduced which do not improve the condition of our state's water quality. More protective standards must be created which will consider all 17 toxic pollutants of concern.

Response to: CTR-104-004b

See response to CTR-016-008.

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Comment ID: CTR-105-002a  
Comment Author: Heather Catherine Park Tausig  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/13/97  
Subject Matter Code: C-17a Methodologies Human Health  
References:  
Attachments? N  
CROSS REFERENCES C-21

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Comment: The maximum levels proposed for mercury, dioxin, and thirteen other pollutants have been identified by respected environmental advocacy groups as (1) insufficiently protective, and (2) environmentally unjust, potentially increasing the cancer risks for subsistence fishers, who are, in large part, people of color.

The standards must be established at a level that makes California waters truly "fishable," and not just "fishable if you don't object to cancer."

Thank you for your consideration.

Response to: CTR-105-002a

See response to CTRH-001-010 (Category C-21; Legal Concerns).

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Comment ID: CTR-106-004b  
Comment Author: Robert Brown  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/28/97  
Subject Matter Code: C-17a Methodologies Human Health  
References:  
Attachments? N  
CROSS REFERENCES C-09a

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Comment: Increasing the limits on toxins means that we postpone the goals of the Clean Water Act to make U.S. water "fishable and swimmable". Any progress made will not be expanded toward making our waters cleaner and mediocre programs will be introduced which do not improve the condition of our state's water quality. More protective standards must be created which will consider all 17 toxic pollutants of concern.

Response to: CTR-106-004b

See response to CTR-016-008.

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Comment ID: CTR-110-001

Comment Author: Judith A. Brown

Document Type: Citizen

State of Origin: CA

Represented Org:

Document Date: 12/02/97

Subject Matter Code: C-17a Methodologies Human Health

References:

Attachments? N

CROSS REFERENCES

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Comment: I have recently been reading about some proposed new quality standards for pollutants of California surface waters. I feel very concerned about these proposed standards, as they appear to be more lenient toward pollutants than the existing regulations. I believe very strongly that our surface water is of serious concern to the millions of Californians who use this water every day. In particular, to children and elderly who are more vulnerable to toxins. There is growing evidence that water pollutants lead to cancer and other serious illnesses. I urge you to create more protective standards for our water. The people of this country are being exposed to potentially serious harm by toxicities in our water supply and I hope that more stringent standards can and will be implemented.

Thank you for allowing me to express my concern.

Response to: CTR-110-001

See response to CTR-002-003 (Category C-24; Site-Specific Criteria).

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Comment ID: CTRH-001-024e

Comment Author: Michelle Pla

Document Type: Public Hearing

State of Origin: CA

Represented Org: S.F. Public Utilities Com

Document Date: 09/17/97

Subject Matter Code: C-17a Methodologies Human Health

References:

Attachments? N

CROSS REFERENCES g-02

g-05

c-22  
c-24a

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Comment: MS. PLA: My name is Michelle Pla. I'm with the Public Utilities Commission, City and County of San Francisco.

I made the comment on my card that I also said that I would try to be constructive, and so I'm going to follow my mentor here, Phil Bobel, and say that there are some things in this rule that we're very pleased to see.

We're very pleased to see use of the latest scientific information, particularly the use of latest IRIS, I-R-I-S, numbers-for human health. We're very pleased that you're using dissolved versus total recoverable form for the metals.

We're very pleased to see recognition of the water effects ratios. We're pleased to see recognition for a multi-tiered mixing zone for acute and chronic human health effects and hope that the state pays particular attention to that.

We do have a problem with the way you've described compliance schedules and hope to be working strictly by the state on that as well. We think that the five-year system is fairly shortsighted, and -we can't even do FMDSLs in five years.

Response to: CTRH-001-024e

EPA acknowledges the commenter's support for the aspects of the rule mentioned in the comment. With respect to compliance schedules, see response to CTR-002-010b (Category G-02; Compliance Schedules).

Comment ID: CTR-002-004b

Comment Author: Comm. for a Better Environment

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-17b Methodologies Aquatic Life

References:

Attachments? Y

CROSS REFERENCES C-17a

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Comment: B. The criteria do not control pollution that harms fishing, and aquatic life.

Adoption of EPA's proposed criteria values will result in less control of toxic pollutants that exceed state criteria values in large parts of San Francisco Bay. Examples of this problem are shown in tables 3 through 6 for mercury, copper, nickel and PAH measured in 1995 at monitoring stations shown on a map of San Francisco Bay (Figure 1). The EPA-proposed criteria would allow:

- mercury violations triggered by state criteria values through much of the northern reach of the Bay. EPA-proposed criteria trigger violations only at the Petaluma river mouth and in South Bay). Bay-wide, 8 of 15 state criteria-triggered violations (53%) are allowed by EPA criteria.
- copper violations triggered by state criteria (4.9 ug/L total) throughout the northern reach of the Bay. EPA'S 3.1 ug/L dissolved value triggers violations only in the Petaluma river and in' South Bay. Bay-wide, 15 of 25 state-triggered violations (60%) are allowed by EPA criteria,
- nickel violations triggered by state criteria throughout most of the northern and southernreaches of the Bay. EPA's 8.2 ug/L dissolved value triggers violations at the Petaluma river mouth and one South Bay slough. Bay-wide, 20 of the 22 water quality standards violations (91%) triggered by the 7.1 ug/L criterion are allowed by EPA criteria,
- PAH violations triggered by state criteria at Coyote Creek and the Petaluma River mouth, EPA-proposed criteria trigger 4 violations for benzo(a)pyrene and indeno(1,2,3-cd)pyrene while state criteria trigger 40 violations for these compounds and 6 other PAHS.

Though EPA criteria do not control mercury except at the Petaluma River and in South Bay, a state human health advisory cites mercury contamination,(\*6) and demonstrates that mercury restricts fishing uses Bay-wide. A severe threat and possible harm to aquatic life of the Bay's entire southern reach is evidenced by reduced abundance of all species known to be most vulnerable to copper toxicity, while these same species thrive in otherwise similar estuaries with less copper and nickel pollution.(\*1) (\*2) EPA criteria do not control copper and nickel in most of this area. Nor do EPA criteria control PAHs which -- with PCBs -- cause toxic effects in starry flounder in Central Bay.(\*4)

Further, EPA'S proposed criteria include no criteria for 16 dioxin compounds that are included in the state dioxin criterion for TCDD equivalents.(\*10) (\*21) These 16 compounds are 6 dibenzo-paradioxins chlorinated in the 2,3,7, and 8 positions (except for 2,3,7,8-TCDD which is included in the EPA criterion), and 10 dibenzofurans chlorinated in the 2,3,7 and 8 positions. Under the state criteria, these 16

compounds and 2,3,7,8-TCDD are assigned toxicity equivalence factors as discussed in the proposed rule. Under the state criterion all these compounds are limited: if only 2,3,7,8-TCDD is present it cannot exceed 0.014 pg/L; if only OCDD is present it cannot exceed 14 pg/L; and if a mixture of dioxins is present the sum of their toxicities cannot exceed 0.014 pg/L. By failing to use toxicity equivalents and then failing to propose separate criteria for these 16 compounds, EPA is essentially deregulating 16 of the most toxic chemicals known to science even though these dioxins harm fishing uses, as shown by the health advisory discussed above. (\*6)

The EPA criteria do not control toxics that threaten and harm the Bay, fishing and public health.

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(\*1) U.S. Geological Survey, 1992. Letter from Samuel N. Luoma, Ph.D., to Seven R. Ritchie, Executive Officer, Regional Water Quality Control Board. August 24, 1992.

(\*2) Karras, 1992. Comparison of copper in waters of the southern reach of San Francisco Bay and ten other estuaries. Communities for a Better Environment (CBE). July, 1992.

(\*4) Spies et al., (2 papers), 1988: Effects of organic contaminants on reproduction of the starry flounder *Platichthys stellatus* in San Francisco Bay, I., Hepatic contamination and mixed-function oxidase (MFO) activity during the reproductive season. *Marine Biology* 98: 181-189; and II. Reproductive success of fish captured in San Francisco Bay and spawned in the laboratory. *Marine Biology* 98: 191-200. Excerpt including abstracts.

(\*6) Cal. EPA, 1994. Health advisory on catching and eating fish, interim sport fish advisory for San Francisco Bay. December, 1994.

(\*10) California State Water Resources Control Board, 1991. California Enclosed Bays and Estuaries Plan; water quality control plan for enclosed bays and estuaries in California. 91-13WQ. April, 1991. Excerpt including adopted water quality criteria and definition of terms.

(\*21) California State Water Resources Control Board, 1997. Staff technical report, Division of Water Quality, Petitions of CBE, San Francisco BayKeeper, and Tosco Corporation for review of Order No. 95-138 of the San Francisco Bay Regional Water Quality Control Board. Office of Chief Counsel [OCC File Nos. A-983 and A-983(A)].

Response to: CTR-002-004b

EPA disagrees with the comment. EPA sets its criteria values at concentrations that will protect aquatic life or human health, based on the evaluation of the toxicity of the pollutants. Aquatic life criteria are expected to protect at least 95 percent of all genera, based on prediction from measured toxicological values. EPA's approach is a longstanding policy; EPA has used this approach to deriving aquatic life criteria since 1980. Criteria concentrations are not selected either to match existing concentrations in particular California waterbodies, or match criteria concentrations previously used by the state.

EPA does not believe that the information provided by the comment can be used reasonably to evaluate whether criteria concentrations protect aquatic life uses. Whether EPA's criteria are higher or lower than criteria previously used by the state are not germane to whether EPA's criteria protect aquatic life uses.

The observations that certain aquatic taxa are impaired in South Bay cannot validly be interpreted to indicate whether EPA's criteria are or are not protective. The cause or causes of impairment in South Bay are in fact not known. The concentrations of many contaminants are correlated with each other and with other occurrence of other stresses. Because of the presence of so many confounding factors, the information on South Bay cannot be used to derive criteria or to judge their validity.

EPA did not derive its criteria concentrations by considering whether the existing concentrations in

particular California waterbodies would or would not attain criteria concentrations. Rather EPA derived its criteria from toxicity data indicating that concentrations that are necessary to protect aquatic life. The comment offers no definitive toxicological or ecological evidence that the criteria are not protective.

The preamble discusses why the only dioxin compound included in the rule is 2,3,7,8-TCDD, which is the only dioxin compound that is a priority pollutant.

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Comment ID: CTR-026-002a  
Comment Author: Cal. Department of Fish & Game  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-17b Methodologies Aquatic Life  
References:  
Attachments? N  
CROSS REFERENCES C-27; C-29

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**Comment: 2. PARTIAL PROTECTION BY THE PROPOSED AQUATIC LIFE CRITERIA  
(FRESHWATER OR SALTWATER)**

On page 42168, the proposed rule includes the following language: "EPA's guidelines are designed to derive criteria that protect aquatic communities by protecting most of the species and their uses most of the time." The CTR goes on to state that this approach results in only a "small possibility" of substantial overprotection or underprotection. Obviously, it is underprotection that is of concern to the DFG. The DFG has very serious concerns that criteria are being proposed that protect "most" of the species "most" of the time. We are aware of the protocols that require a minimum of eight specified families be used to develop criteria and that it may be difficult to determine criteria that are one hundred percent protective; however, this does not preclude the real possibility that certain designated uses and aquatic organisms will not be maintained, and or protected, as a result of the proposed criteria. The DFG is also concerned that criteria and protocols developed for specific constituents do not take into account the additive or synergistic effects that contaminant combination may have on aquatic organisms. Another factor that needs to be considered is bioaccumulation, as well as the effect this may have on organisms at higher trophic levels.

As trustee of all the fish and wildlife resources in the State, it is our agency's responsibility to ensure appropriate protection of all fish and wildlife resources, not just "most", and this includes adequate water quality standards. Due to our concerns and the very real possibility of underprotection to aquatic organisms and designated uses, the DFG believes that it may be appropriate to derive the criteria as proposed, and subsequently develop some additional safety factors for inclusion. It is our understanding that this approach was used in the formulation of water quality objectives for protection of aquatic organisms in the California Ocean Plan. In the short term, the safety factor could possibly be realized by the development of a comprehensive biological monitoring program to determine whether the proposed criteria are indeed fully protective.

Response to: CTR-026-002a

EPA disagrees with the comment. EPA believes that incorporating the type of safety factor requested in

the comment would be arbitrary and would be difficult to defend scientifically. In particular EPA does not believe such a safety factor could be defended as being necessary for the protection of aquatic life. The commenter provides no data demonstrating that the criteria do not protect aquatic life.

The phrase "most of the species...most of the time" generally means a high percentage of species, a very high percentage of time. Aquatic life criteria are expected to protect at least 95 percent of all genera, based on prediction from measured toxicological values. In most streams, the duration and frequency goals result in attainment of criteria more than 99 percent of time. Past application of aquatic life criteria indicate that this level of protection will protect all aquatic life uses of a waterbody. Considering the variability of natural stresses on all species in a waterbody, EPA can find no basis in data or analysis for a concern that its goals for criteria concentrations and attainment time would not protect aquatic life uses. Because EPA's aquatic life criteria are derived using an appropriately conservative methodology, there is no need to develop the safety factors suggested by the comment.

See response to CTR-026-002b for discussion of the additive or synergistic concerns.

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Comment ID: CTR-026-003a  
Comment Author: Cal. Department of Fish & Game  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-17b Methodologies Aquatic Life  
References:  
Attachments? N  
CROSS REFERENCES C-17a

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Comment: 3 . TOXICITY DATABASE USED TO DEVELOP CRITERIA

The CTR indicates that the criteria being proposed are based upon a review of the most recent literature and toxicity data bases. The DFG is concerned that the databases utilized by EPA may not be as comprehensive as they could be with respect to inclusion of toxicity studies on a wide variety indigenous species found in State waters. Furthermore, data included in such databases such as EPA's AQUIRE have been found, in some instances, to be less than acceptable. Obviously we would like to see the criteria based on the most recent and scientifically sound toxicity data available. The DFG believes that it would be beneficial to describe in more detail the literature and databases utilized by EPA in development of the proposed criteria.

Also a discussion on appropriate and acceptable methodologies for data collection needs to be provided. It is not only important that the databases utilized by EPA be as comprehensive as possible, with respect to the inclusion of toxicity studies on a wide variety of indigenous species found in State waters. It is also important to know how the data was developed so that it won't be misinterpreted. For example, DFG would prefer using data that was derived from sampling whole organisms rather than edible filets if we were looking at bioaccumulation, biomagnification, or other types of food chain issues. Most predators don't limit their diet to only the edible portions of a prey organism. Sampling only the edible portions of an organism could lead to faulty conclusions.

Finally, with regards to the development of chronic toxicity standards or criteria based on a straight

percentage of the determined acute toxicity level, we would like to participate in any process that attempts to establish chronic levels in that manner.

Response to: CTR-026-003a

The derivation of each aquatic life criteria concentration is explained in detail in the criteria documents and in the 1995 update document, all of which were publicly available. This information was not repeated in the preamble of the proposed rule.

EPA does not agree with the comment about the comprehensiveness of the toxicity database. At the time the criterion document for each pollutant was developed, a comprehensive search of the literature was performed. The comment has offered no literature citations that EPA missed. Regarding the comment on the database AQUIRE, this database was never intended to include only the data that EPA would use for criteria development. EPA agrees that for purposes of developing criteria, some of the data in AQUIRE is "less than acceptable." However, EPA would not and has not used such data in development of the rule's criteria.

Bioaccumulation factors developed from data on edible portions of aquatic organisms have been used in criteria designed to prevent the edible portions of fish or shellfish from exceeding FDA action levels, and to prevent human health risks.

EPA encourages the commenter to participate in State adoption of water quality objectives, which after approval, would supersede these federal criteria.

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Comment ID: CTR-029-002b

Comment Author: Center for Marine Conservation

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-17b Methodologies Aquatic Life

References:

Attachments? N

CROSS REFERENCES C-17a; A; C-22; C-27; C-29

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Comment: The Center for Marine Conservation (CMC) is a nationwide, nonprofit advocacy group dedicated to the conservation and enhancement of coastal and ocean life and resources. CMC submits these comments on behalf of its 16,000 members in California and over 120,000 members nationwide.

CMC applauds EPA's efforts to bring California into compliance with the Clean Water Act 303(c)(2)(B). Implementing numeric criteria that will protect the beneficial uses of California's waters is of great importance to the health of coastal and marine ecosystems, and so to CMC and its members. The reliance in many areas of the state on narrative criteria threatens the health of most of the state's waters, thereby impacting both human health and the health of the state's economy that relies on clean water.

While CMC strongly supports the swift adoption of an Enclosed Bays and Estuaries Plan and an Inland Surface Waters Plan that contain numeric criteria for toxic pollutants, CMC also is concerned that many of the specific criteria contained in the proposed rule are weaker than those contained in published

guidance. CMC also believes that the proposed rule can better protect certain subpopulations from harm caused by consumption of contaminated fish and shellfish. Finally, CMC is concerned that the economic analysis of the proposed rule over-emphasizes costs and under-reports the many benefits of improving water quality throughout the state. These three points are reviewed below.

#### In Light of Significant Threats to Water Quality, the Proposed Rule Should Contain the Most Stringent Criteria That Are Scientifically Defensible

Many of the criteria in the proposed rule are weaker than criteria in current published guidance. The proposed rule summarily states that the difference between the proposed, weaker criteria and the published guidance documents is "insignificant"(\*4); however, in light of the current contamination problems in California's waters today, any move backwards, particularly when spread out over the state, must be viewed as significant.

Any weakening of the criteria should be subject to close scrutiny and the most rigorous analysis, which the proposed rule itself does not do. Among other things, the criteria in the proposed rule may be underprotective because additive and synergistic effects were not considered; and because the effects on wildlife, which can be particularly significant for bioaccumulative chemicals, were ignored.(\*5) In addition, the proposed rule contains dissolved rather than total recoverable metals criteria, despite the fact that EPA acknowledges that total recoverable metals criteria are "scientifically defensible" and that they are more protective than dissolved metals criteria because they consider "sediment, food-chain effects and other fate-related issues," rather than simply water column impacts.(\*6)

Clean Water Act section 303(c)(2)(B) mandates the development of numeric criteria that will "support such designated uses [that are adopted by the State]." The statistics available on the health of the state's waters indicates that their use already is significantly threatened or impaired by toxics. The strongest criteria supportable by science are necessary to reverse this trend and begin to restore the state's waters.

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(\*4) 62 Fed. Reg. 42159, 42168 (Aug. 5, 1997).

(\*5) Id. at 42168.

(\*6) Id. at 42172.

Response to: CTR-029-002b

EPA disagrees with the comment, with respect to incorporation of weaker criteria. EPA incorporated its latest criteria values into the proposed and final rule. EPA believes that these criteria are fully protective, and are the most scientifically defensible available at this time. The commenter offers no evidence that these criteria are not protective.

EPA disagrees with the assertion that "EPA acknowledges that total recoverable metals criteria...consider sediment, food-chain effects and other fate-related issues." The preamble to the proposed rule (62 FR 42172) has no such acknowledgment. Total recoverable metals criteria do not consider sediment, food-chain, or fate. Rather, EPA has acknowledged that a state may consider such factors in risk management decisions affecting water quality programs and standards. See also response to CTR-26-004.

See response to CTR-026-002b regarding additive or synergistic issues.

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Comment ID: CTR-031-002c  
Comment Author: Fresno Metro. Flood Ctrl Dist.  
Document Type: Flood Ctrl. District  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-17b Methodologies Aquatic Life  
References: Letter CTR-031 incorporates by reference letter CTR-027  
Attachments? N  
CROSS REFERENCES F; C-17a; J; V

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Comment: 2. Since the preamble implies that CTR criteria may be applied in NPDES permits for municipal storm water dischargers as numeric effluent limitations, the proposed rule is flawed with regard to: a) setting attainable, scientifically valid criteria in a manner consistent with state and federal regulatory approaches; b) assessing the potential economic impact on the public served by municipal storm water dischargers; c) assessing environmental impacts pursuant to the National Environmental Policy Act and the Endangered Species Act; and d) providing for the coordinated review and evaluation of the proposed CTR in conjunction with the proposed State Implementation Plan.

Response to: CTR-031-002c

EPA disagrees with item a). The commenter offers no evidence to support this alleged flaw.

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Comment ID: CTR-031-004b  
Comment Author: Fresno Metro. Flood Ctrl Dist.  
Document Type: Flood Ctrl. District  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-17b Methodologies Aquatic Life  
References: Letter CTR-031 incorporates by reference letter CTR-027  
Attachments? N  
CROSS REFERENCES C-17a; I

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Comment: If the proposed rule is carefully and sufficiently modified to affirm a commitment by EPA to effect only its Congressional authorization as established by CWA section 402(p), then EPA's failure to assess municipal storm water dischargers' ability to attain the proposed standards and associated economic and environmental impacts may be set aside at this time. However, if EPA persists in maintaining the CTR as drafted in this regard, the ambiguities presented in the preamble demand serious consideration and analyses as follows.

a. Many of the criteria are not attainable or scientifically valid with regard to municipal stormwater dischargers, nor is the proposed approach consistent with an appropriate delegation of authority to the State.

ii. Scientific Defensibility of Standards

Municipal storm water discharges require a uniquely different scientific as well as regulatory approach.

The episodic nature of storm flow events; the huge variances in flow volume, rate, timing, concentrations, and loads; the variability in receiving waters; and organism tolerance for and recovery from episodic exposure need to be taken into account in developing standards.

In a July 1992 memorandum addressing a Combined Sewer Overflow/Wet Weather workshop, Tudor Davies, Director of EPA's Office of Science and Technology wrote: "Changes being considered in the aquatic criteria development methodology to enhance the scientific defensibility of the criteria would be applicable to both constant and to wet weather discharges. One such change undergoing consideration is a change in the duration and frequency of exposure assumptions to make criterion more toxicologically realistic.

EPA has begun this work and is apparently nearing completion. With EPA's own Science and Technology office recognizing the inadequacy of the current approach to setting criteria relative to wet weather discharges, it must be concluded any attempt to apply the CTR criteria to municipal stormwater system discharges is ill-founded and likely inconsistent with the CWA.

Response to: CTR-031-004b

EPA agrees that the specified numeric criteria concentrations, chronic averaging period, and allowable frequency may not be completely appropriate for every possible application of each criterion. For this reason, the proposed and final rules incorporate provisions for the Water-Effect Ratio for modifying the criteria concentrations for site-water conditions. The final rule also incorporates a provision that the State of California, with EPA approval, after public notice and comment, may use alternative, scientifically defensible, averaging periods and allowable frequencies. When the numeric values are coupled with these provisions, EPA believes that the rule provides criteria that are fully applicable to all types of discharges, including storm water where appropriate.

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Comment ID: CTR-037-002

Comment Author: Hampton Roads Sanitation Dist.

Document Type: Sewer Authority

State of Origin: VA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-17b Methodologies Aquatic Life

References:

Attachments? N

**CROSS REFERENCES**

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Comment: 2. EPA has used its 1985 Guidelines to develop the criteria designed to protect aquatic life and its uses proposed in this rule. However, EPA has used new decision criteria in this rule that are not part of the 1985 Guidelines or any addendum of the Guidelines. Examples include the use of test results where measured concentrations were reported rather than for tests where concentrations were not reported, regardless of whether the test was flow through; and the use of the lowest SMAV or SMCV as the GMAV or GMCV when SMAVs or SMCVs varied by more than a factor of five within a genus. EPA should not be "making the rules up as they go" and should be amending the Guidelines as changes are necessary. Changes to the methods used to develop criteria must be made public in an organized fashion to facilitate consistent development of criteria across the country. EPA may find that if these new decision criteria were applied to all criteria that they too would change. Changes to the Guidelines

without formal documentation introduces too much variability into the water quality criteria program and does not insure that all regulatory agencies will acknowledge and implement the changes. EPA should follow the Guidelines that they have developed until new methods are available.

Response to: CTR-037-002

EPA agrees that the derivation of some of the criteria for the rule used certain decision criteria that were not part of the 1985 Guidelines. These included a preference for results from flow-through tests with measured concentrations, and setting the GMAV at the lowest SMAV where SMAVs differ by more than a factor of five. These decision criteria are used in the derivation of the GLI criteria, although they are also not part of the GLI Guidelines (40 CFR 132). EPA believes that the preference for flow-through measured tests is reasonable because the toxicant exposure has greater certainty in such tests. Provided that experimental variability had little to do with accounting for observed differences in SMAVs, then setting the GMAV equal to the lowest SMAV might likewise be reasonable, if the intent were to protect all tested species within the genus in such situations. These changes do not constitute changes to the national Guidelines. EPA believes that it is not bound by the 1985 Guidelines where there is a reasonable scientific basis for deviating from the Guidelines.

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Comment ID: CTR-037-003a

Comment Author: Hampton Roads Sanitation Dist.

Document Type: Sewer Authority

State of Origin: VA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-17b Methodologies Aquatic Life

References:

Attachments? N

CROSS REFERENCES C-17a

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Comment: 3. EPA has deleted data from several databases without indicating the reason for the deletions. This introduces the same problem as that described in #2 above, and results in variability in how water quality criteria are developed. Additionally, stakeholders need to know why data is deleted so that these decision criteria can be used in the development of defensible site-specific criteria. EPA should provide their reasoning for deleting data that was once believed acceptable so that this same reasoning can be used to update current criteria and to develop new sound criteria.

Response to: CTR-037-003a

EPA disagrees. The commenter did not identify particular data that were at issue. EPA believes that the derivation of criteria was fully explained in the 1995 Updates and in the original criteria documents, both of which were included in the public record for the proposed rule.

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Comment ID: CTR-065-002c

Comment Author: Environmental Health Coalition

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/26/97  
Subject Matter Code: C-17b Methodologies Aquatic Life  
References:  
Attachments? N  
**CROSS REFERENCES A; C-17a**

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**Comment: PROPOSED RULE ALLOWS SIGNIFICANT AND UNACCEPTABLE INCREASES IN TOXIC POLLUTANT CONCENTRATIONS IN BAYS AND ESTUARIES**

Our initial review indicates that the proposed criteria for a number of toxic constituents are unacceptably high and will allow more pollution of bays and estuaries by several orders of magnitude. If adopted as proposed, the CTR will allow a 900% increase of dioxin, 140% increase of PCBS, 325% increase of mercury, 2760% increase of zinc, 23,000% increase of lead, and a stunning 430 million % increase for total PAH, some of the most problematic pollutants in San Diego Bay. The CTR only improves (i.e. strengthens) criteria for only 3 of 64 pollutants. This does not square with new studies that show reasons for concern about the synergistic and long-term effects of exposures to these toxic pollutants. In sum, the CTR proposes weaker criteria for 58% of the pollutants and no change for 37% of the criteria. This kind of action will not bring us closer to our goal of cleaner water containing healthier organisms in the future.

Response to: CTR-065-002c

EPA disagrees. EPA did not derive its criteria concentrations with the intent of matching existing concentrations in particular California waterbodies. EPA derived its criteria based on toxicity data indicating concentrations that are necessary to protect aquatic life. In most waterbodies having impairment of aquatic life, there are particular pollutants or other factors that are causing a stress. The concentrations of all other contaminants not causing stress are below their criteria. The comment's observation that existing concentrations are below the criteria in some waterbodies does not provide a reasonable basis for setting or judging a criterion intended to be necessary for the protection of aquatic life.

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Comment ID: CTR-065-004  
Comment Author: Environmental Health Coalition  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-17b Methodologies Aquatic Life  
References:  
Attachments? N  
**CROSS REFERENCES**

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**Comment: EHC DOES NOT SUPPORT THE "MOST OF THE SPECIES, MOST OF THE TIME" TEST**

EHC is VERY concerned about the EPA proposing criteria to protect "most of the species and their uses most of the time". This is tantamount to condoning and facilitating marine life destruction through regulation. It is a terrible policy and should be abandoned. We are allowing polluting industries and dischargers. to bombard our marine resources with pollutants that result in multiple chemical exposures

of which we know very little of the, cumulative and synergistic effects.

Further, what is the EPA's definition of "most"? Is it 99.99%, 75% or 51%? Will estuarine environments survive standards that could be argued need only protect half of the organisms? This is completely unacceptable. EPA promulgated standards should be protective of all the living creatures 'in and' near the waters of the state. If we err, let us err on the side of protection. Although there is much that is unknown about impacts of multiple pollutants on marine organisms, one thing is for sure: once the damage is done it is hard to undo. One look at DDT- and PCB contamination in California waters should serve as an adequate reminder.

Discharging known, toxic pollutants into the marine environment is not a right, it is a privilege. The privilege should be granted only when the discharge does not harm the marine environment. Instead of trying to closely walk the ever unknowable line of exact protection, EPA should propose standards that assure complete protection so that bays, oceans, and inland waters containing all of their species, all of the time can be passed to the next generation.

Response to: CTR-065-004

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Comment ID: CTR-099-001b

Comment Author: Emil A. Lawton, Ph.D.

Document Type: Citizen

State of Origin: CA

Represented Org:

Document Date: 10/03/97

Subject Matter Code: C-17b Methodologies Aquatic Life

References:

Attachments? N

CROSS REFERENCES C-17a

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Comment: This letter is to comment on the water quality standards for California surface water. It is my strongly held opinion that the proposed standards do not meet the minimum legal requirements of protecting health, let alone other aspects of the environment. The numbers should be adjusted to lower MAC's by roughly an order of magnitude.

Response to: CTR-099-001b

EPA disagrees. EPA believes that is the criteria are fully protective of designated aquatic life uses. The commenter offers no evidence that the criteria are not protective.

EPA agrees that with the comment that a criterion that would protect only half of all the aquatic organisms would be unacceptable. However, EPA finds no evidence, within the comment or elsewhere, indicating that its criteria yield so little protection.

EPA criteria are derived such that they would be expected to protect at least 95 percent of the genera, based on prediction from measured toxicological values, a very high percentage (usually more than 99 percent) of the time. This very high level of protection is sufficient to protect aquatic life uses.

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Comment ID: CTR-102-001b  
Comment Author: Bryan Gordon  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/10/97  
Subject Matter Code: C-17b Methodologies Aquatic Life  
References:  
Attachments? N  
CROSS REFERENCES C-17a

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Comment: Please ensure that the Federal water quality standards provide the maximum protection for people as well as the animals that inhabit our state's waterways.

Thank you for protecting America's waterways and the Americans and American animals that come into contact with them.

Response to: CTR-102-001b

EPA acknowledges the comment.

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Subject Matter Code: C-17c Meth.New Human Health Meth.

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Comment ID: CTR-035-023

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-17c Meth.New Human Health Meth.

References:

Attachments? N

**CROSS REFERENCES**

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Comment: p. 42177 --New Human Health Criteria Methodology Please clarify when the new human health criteria methodology will be available, when EPA will be promulgating revised criteria as a result of the new methodology, and how those will be incorporated into the CTR and ultimately into permits. Will the criteria being adopted in this rule automatically be updated, or will EPA update them through subsequent rulemakings? If it is EPA's intent to modify the criteria in the CTR without undertaking a full rulemaking process, then those changes must be analyzed now, including an analysis of the costs and benefits of the different criteria. Also, please clarify whether, if specific criteria are changed within 5 years of adoption of the CTR, it is EPA's intent that compliance schedules already placed into permits would be extended if necessary to meet lower criteria?

Response to: CTR-035-023

Any changes to the CTR as a result of the new human health criteria methodology would be done through rulemaking to stay, withdraw, or amend the CTR. The draft revisions to the methodology for deriving ambient water quality criteria for the protection of human health were published in the Federal Register on August 14, 1998. A 120-day public comment period closed on December 14, 1998. The draft methodology revisions are available at the U.S. EPA National Center for Environmental Publications and Information (NCEPI), 11029 Kenwood Road, Cincinnati, OH 45242 or (513) 489-8190. They also may be downloaded from the EPA Office of Science and Technology's internet site (<http://www.epa.gov/OST/humanhealth>).

The most recent Federal action establishes the Agency's current water quality criteria. To date, the most recent Federal recalculation of 304(a) criteria occurred in the CTR. These 22 CTR criteria, plus the previously published 78 criteria, are the Agency's recommended human health criteria. As such, they will continue to be used as the basis for Agency decisions, both regulatory and nonregulatory, until EPA revises and reissues chemical-specific criteria. For example, EPA intends to use these criteria: (1) as guidance to States and Tribes for use in establishing water quality standards; (2) as the basis for EPA promulgation of water quality standards; (3) in establishing NPDES water quality-based permit limits, where the criteria have been adopted by a State or Tribe or promulgated by EPA; and (4) for all other purposes of Section 304(a) criteria under the Act.

EPA views the criteria program as constantly evolving. When the AWQC Methodology Revisions are final, any chemical-specific 304(a) criteria published using the revised methodology will be considered the Agency's most current recommended 304(a) criteria. EPA notes revisions of existing 304(a) criteria prior to the finalization of the revised methodology may be undertaken and are not precluded. Until such time as EPA re-evaluates a chemical, subjects the criteria to appropriate peer review, and subsequently

publishes revised chemical-specific 304(a) criteria, the existing recommended 304(a) criteria remain in effect.

States and Tribes have three options when adopting water quality criteria for which EPA has published 304(a) criteria. They can establish numerical values based on 304(a) criteria, 304(a) criteria modified to reflect site specific conditions, or other scientifically defensible methods. When States or Tribes revise their water quality criteria to correct deficiencies identified in a Federal promulgation, EPA will assess the scientific defensibility of the criteria in terms of the Agency's most recent recommended water quality criteria. Once new or revised 304(a) criteria are published by EPA, the Agency expects States and Tribes to adopt new or revised water quality criteria into their water quality standards consistent with the three options discussed above. EPA emphasizes it will be reviewing State and Tribal water quality standards to assess the need for new or revised water quality criteria. EPA believes five years from the date of publication of new or revised 304(a) criteria is a reasonable time frame by which States and Tribes should take action. This period is intended to accommodate those States and Tribes which have begun a triennial review and wish to complete the actions they have underway, deferring initiating adoption of new or revised water quality criteria until the next triennial review.

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Subject Matter Code: C-18 Conversion Factors

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Comment ID: CTR-035-017

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-18 Conversion Factors

References:

Attachments? N

**CROSS REFERENCES**

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Comment: p. 42172 -- Acute/Chronic Saltwater Conversion Factors for Metals We question the validity of the assumption that acute saltwater conversion factors for metals can be substituted for chronic. EPA should further explain and document the basis for substituting acute saltwater conversion factors for chronic saltwater conversion factors.

Response to: CTR-035-017

Because EPA's previous criteria guidance had been expressed as total recoverable metal rather than dissolved, EPA developed conversion factors that account for the possible presence of particulate metal in the laboratory toxicity tests used to develop the total recoverable criteria. EPA has used the best data available to it for estimating the percentage of dissolved metal in the toxicity test waters which support the derivation of its criteria. The commenter provides no evidence that the application of saltwater acute conversion factors to saltwater chronic criteria is inappropriate. Nor does the commenter offer an alternative solution. EPA believes its assumptions regarding chronic conversion factors are reasonable; EPA believes that using dissolved metals criteria for water quality standards better approximates the bioavailable metals in the water column and better approximates metals toxicity than do criteria based on total recoverable metal. Based on the close similarity between the measured conversion factors for freshwater acute and chronic toxicity tests, and absent any other information to the contrary, it is reasonable to expect that saltwater acute and chronic conversion factors would be similar to each other.

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Subject Matter Code: C-19 FDA Action Levels

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Comment ID: CTR-016-006

Comment Author: San Francisco Bay RWQCB

Document Type: State Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-19 FDA Action Levels

References:

Attachments? Y

CROSS REFERENCES

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Comment: Calculation of Final Residual Values Based on FDA Action Levels

The Regional Board agrees with EPA's assessment that it is inappropriate to use FDA Action Levels to develop criteria intended to be protective of aquatic life; at the same time, we question the appropriateness of using Action Levels as the basis for criteria intended to be protective of human health. In 1991, Board staff reviewed all historical Federal Register documents pertaining to the Action Levels dating back to the early '60s. In that review, we found that the majority of Action Levels FDA was using in 1991 were derived from studies conducted by pesticide manufacturers in the '60s. These studies characterized the expected residual level of pesticides in meat and poultry following application of pesticides on grain according to manufacturer's specifications. The implicit presumption on FDA's part was that the marginal health risks posed by pesticide residues were negligible compared to the benefits associated with pesticide-aided food production. We sincerely hope that the FDA has revised its methodology for deriving Action Levels since 1991, but do not believe that a predetermined percentage of food on the market is an acceptable factor to include in the derivation of environmentally protective criteria. Based on our findings, we encourage EPA not to use any Action Level until it has passed a level of technical review comparable to other risk-based federal environmental criteria.

Response to: CTR-016-006

None of EPA's Section 304(a) human health criteria, including the criteria that are being promulgated in today's rulemaking, are derived using FDA action levels.

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Subject Matter Code: C-20 Scope Prty Toxic Poll. List

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Comment ID: CTR-025-001b

Comment Author: Metro. Water Dist. of So. Cal.

Document Type: Water District

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-20 Scope Prty Toxic Poll. List

References:

Attachments? Y

CROSS REFERENCES C-16

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Comment: Proposed California Toxic Rule

The Metropolitan Water District of Southern California (Metropolitan) appreciates this opportunity to comment on the U.S. Environmental Protection Agency's (U.S.EPA) proposed California Toxics Rule(CTR). Metropolitan, through its 27 member agencies, supplies nearly 60% of the drinking water used by approximately 16 million people living in the six-county region of Southern California. Our sources of supply are surface waters from Northern California and the Colorado River.

The water quality criteria proposed in the CTR are of critical importance to Metropolitan and other drinking water suppliers. These criteria create the basis for source water protection activities which are the first line of defense for ensuring a safe drinking water supply. Further, the criteria help protect aquatic species, including the unique aquatic resources of the Bay-Delta. The health of the Bay-Delta ecosystem and waters tributary to the Delta is linked to the amount of water available for export and thus directly affects water supply reliability of the exporting water agencies such as Metropolitan. Lastly, the CTR criteria affect the ability of water suppliers to operate and maintain their facilities.

Metropolitan recognizes that the CTR is only required to address the Clean Water Act's "priority pollutants". We note, however, that many of the drinking water contaminants regulated under the Federal and/or California Safe Drinking Water Acts (SDWA) are not among the priority pollutants. Table 1 lists the drinking water chemical constituents regulated under the California SDWA which are not priority pollutants. (The California SDWA regulates a broader set of contaminants than the Federal SDWA and provides the appropriate regulatory comparison since the CTR pertains solely to California.) Drinking water beneficial, uses cannot be fully protected without water quality criteria for all California SDWA regulated contaminants. Metropolitan requests that U.S. EPA consider including human health criteria for the contaminants listed in Table 1 as part of the CTR.

Response to: CTR-025-001b

The scope of today's rule is to establish numeric criteria to bring California into compliance with CWA Section 303(c)(2)(B). Section 303(c)(2)(B) requires adoption of numeric criteria for priority toxic pollutants contained in CWA Section 307(a) for which EPA has issued Section 304(a) criteria guidance the discharge or presence of which could reasonably be expected to interfere with the designated uses of state waters. The promulgation of pollutants that are not identified as priority toxic pollutants (i.e, those pollutants that are not contained in the CWA Section 307(a) list) are outside of the scope of today's rule.

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Comment ID: CTR-026-008  
Comment Author: Cal. Department of Fish & Game  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-20 Scope Prty Toxic Poll. List  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: 8. ADDITIONAL CRITERIA

The proposed rule would establish freshwater aquatic organism acute criteria for 24 constituents, freshwater aquatic organism chronic criteria for 28 constituents, saltwater aquatic organism acute criteria for 23 constituents, and saltwater aquatic organism chronic criteria for 27 constituents. The DFG agrees that establishment of criteria for these constituents will go a long way towards protecting fish and wildlife resources. However, we also believe that criteria for additional constituents would further strengthen the proposed rule. To this end, the DFG recommends that acute and chronic toxicity criteria be established for chlorine and ammonia. As a starting point, the EPA 1986 Gold Book has fresh and saltwater criteria guidance developed for both constituents. With respect to acute and chronic toxicity, the CTR should develop criteria similar to that which exists in the California Ocean Plan. From an overall toxicity standpoint, setting acute and chronic criteria would better address the additive or synergistic effects that individual constituent criteria fail to take into account.

Response to: CTR-026-008

The scope of today's rule is to establish numeric criteria to bring California into compliance with CWA Section 303(c)(2)(B). Section 303(c)(2)(B) requires adoption of numeric criteria for priority toxic pollutants contained in CWA Section 307(a) for which EPA has issued Section 304(a) criteria guidance and where those pollutants could reasonably be expected to interfere with the designated uses of state waters. Neither ammonia nor chlorine are identified as priority toxic pollutants in CWA Section 307(a) and are thus outside of the scope of today's rule. This is consistent with EPA's action in the National Toxics Rule 57 FR 60848 (Dec 22, 1992). See p. 60852, col. 2; 60856-60859.

EPA, however, recognizes the detrimental impacts of ammonia, chlorine, and other toxins on aquatic ecosystems, and encourages states, including California, to adopt criteria for these and other pollutants so that the designated uses of state waters can be fully protected (the CWA and Water Quality Standards Regulation requires states to adopt water quality standards, which includes water quality criteria, sufficient to protect the designated uses of their waters). States may also use their narrative criteria to prevent toxic effects caused by pollutants, such as ammonia and chlorine, in instances where a state does not have numeric criteria in place or to supplement their numeric criteria.

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Comment ID: CTR-058-009  
Comment Author: Western States Petroleum Assoc  
Document Type: Trade Org./Assoc.  
State of Origin: CA

Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-20 Scope Prty Toxic Poll. List  
References:

Attachments? Y

#### CROSS REFERENCES

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Comment: MTBE. WSPA supports EPA's decision not to set criteria based on secondary or organo-leptic considerations and to remain focused on setting criteria to protect human health and aquatic life.

Given the controversy surrounding use of MTBE, particularly in California, WSPA supports an open, objective and comprehensive scientific discussion of the issues and possible solutions. In fact, WSPA is supporting (with EPA and API) a detailed study of ambient aquatic toxicity data on MTBE in surface waters, with a goal to agree on appropriate water quality criteria to protect aquatic life. It is appropriate to allow this study to run its course, at which time EPA and the states can examine the data and set criteria based on sound science.

Other stakeholders may raise concerns about the carcinogenicity of MTBE. However, EPA (the agency charged with deciding whether MTBE is a carcinogen) has not taken an official position on this issue. The data which suggest that it might be (e.g., Belpoggi et al.) provide, at best, only weak evidence and are highly controversial from a methodological standpoint. It is imperative that EPA carefully review the evidence and decide the matter in an appropriate forum. Certainly, this rulemaking is not the appropriate forum.

In the interim, water quality officials are already well-empowered to address concerns of taste and odor when needed. Establishing an MTBE criterion in this rulemaking will not enhance protection of drinking water supplies.

Response to: CTR-058-009

The scope of today's rule is to establish numeric criteria to bring California into compliance with CWA Section 303(c)(2)(B). Section 303(c)(2)(B) requires adoption of numeric criteria for priority toxic pollutants contained in CWA Section 307(a) for which EPA has issued Section 304(a) criteria guidance and the discharge or presence of which could reasonably be expected to interfere with the designated uses of state waters. MTBE is not identified as a priority toxic pollutant in CWA Section 307(a) and is thus outside of the scope of today's rule. Additionally, EPA acknowledges the support for the Agency in not promulgating criteria that are based on organoleptic considerations. This is consistent with the NTR. See 57 FR 60873.

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Comment ID: CTR-061-006  
Comment Author: G. Fred Lee & Associates  
Document Type: Academia  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-20 Scope Prty Toxic Poll. List  
References:

Attachments? Y

CROSS REFERENCES

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Comment: Page 42162, second column, near the top, does not provide a reliable discussion about how the Priority Pollutant list was developed. It was a court-ordered consent decree that was not internally peer-reviewed by the US EPA, or reviewed by the technical community or the public concerned with these issues. The Priority Pollutant list as promulgated and implemented has proven to be a significant detriment to proper water pollution control efforts in the US since it focuses resources on a number of chemicals that have limited significance to public health and the environment and allows regulatory agencies, dischargers, etc. to ignore the vast arena of hazardous or detrimental chemicals that exist in various types of wastes and point and non-point source stormwater runoff that can and, in some instances, do cause real water quality impacts.

Response to: CTR-061-006

EPA believes that the derivation of the Section 307(a) priority toxic pollutant list is outside of the scope of today's rule. Additionally, EPA disagrees that the current Section 307(a) list of priority toxic pollutants is a detriment to water pollution control. The Agency believes that the establishment of criteria for priority toxics pollutants represents significant progress in controlling the discharge of toxins to the nation's waters and will result in many improvements in protecting water resources and in achieving the fishable/swimmable goals of the Clean Water Act. EPA maintains that the control of toxic pollutants in ambient waters is fundamental in a number of Clean Water Act programs, including permitting programs, protection of contaminant levels in fish and shellfish, improvements in marine, coastal, and inland surface water quality, contamination of sediments, pollution prevention, and in ecological protection.

While EPA agrees that there may be other chemicals that adversely impact environmental protection, EPA notes that states do have the authority to develop and adopt criteria for pollutants that are not contained on the 307(a) list in order to protect the designated uses of their waters. The Water Quality Standards Regulation (see 40 CFR 131) requires all states, including California, to adopt criteria that will provide sufficient coverage to protect the designated uses of their waters. Furthermore, where a state has not adopted sufficient coverage of numeric criteria to protect the designated uses, the state may utilize its narrative criteria to derive criteria for pollutants to supplement the numeric criteria.

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Comment ID: CTR-065-006b

Comment Author: Environmental Health Coalition

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-20 Scope Prty Toxic Poll. List

References:

Attachments? N

CROSS REFERENCES P

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Comment: TOXICITY TESTING

EHC strongly supports inclusion of acute and chronic toxicity tests. However, it is very important that

chlorine and ammonia be added to the list of constituents.

Response to: CTR-065-006b

The scope of today's rule is to establish numeric criteria to bring California into compliance with CWA Section 303(c)(2)(B). Section 303(c)(2)(B) requires adoption of numeric criteria for priority toxic pollutants contained in CWA Section 307(a) for which EPA has issued Section 304(a) criteria guidance and where those pollutants could reasonably be expected to interfere with the designated uses of state waters. Neither ammonia nor chlorine are identified as priority toxic pollutants in CWA Section 307(a) and are thus outside of the scope of today's rule. This is consistent with EPA's action in the National Toxics Rule 57 FR 60848 (Dec 22, 1992). See p. 60852, col. 2; 60856-60859.

EPA, however, recognizes the detrimental impacts of ammonia, chlorine, and other toxins on aquatic ecosystems, and encourages states, including California, to adopt criteria for these and other pollutants so that the designated uses of state waters can be fully protected (the CWA and Water Quality Standards Regulation requires states to adopt water quality standards, which includes water quality criteria, sufficient to protect the designated uses of their waters). States may also use their narrative criteria to prevent toxic effects caused by pollutants, such as ammonia and chlorine, in instances where a state does not have numeric criteria in place or to supplement their numeric criteria.

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Comment ID: CTR-090-005

Comment Author: C&C of SF, Public Util. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-20 Scope Prty Toxic Poll. List

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

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Comment: Major Concerns About the Proposed Criteria and Rule

1. The Proposal is Based on Poor Data and Will Not Result in Better Water Quality for California. We stated that our own attainability analysis and that of BADA show that San Francisco, will be impacted by this rule. Unfortunately, due to the short time for review, the poor quality of data and basis for statements and assumptions in the proposal and the problem with detection limits we cannot specifically say what will be the cost to San Francisco. One analysis tells us it could be \$2.3 million per year annualized costs and another analysis tells us it could be much more. We strongly recommend major revision to the proposal and the economic analysis before final promulgation for the following reasons:

The criteria includes many toxicants which are not known to cause problems in the waters; many are banned substances. On the other hand, substances which are known to be problems and which are being released in large amounts are not included in the proposed criteria;

Response to: CTR-090-005

EPA believes that the derivation of the Section 307(a) priority toxic pollutant list is outside of the scope

of today's rule. Furthermore, EPA disagrees that the criteria promulgated in today's rule are not to known to cause problems in ambient waters. See response to CTR-061-006. The criteria are based on laboratory studies showing harm to human health or aquatic life. Further, because permit limits are incorporated into NPDES permits only for constituents having a reasonable potential to exceed water quality standards, a discharger does not receive a limit in its permit unless the discharge contains the pollutant. Thus existence of criteria does not translate into unnecessary permit limits.

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Comment ID: CTR-090-016

Comment Author: C&C of SF, Public Utl. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-20 Scope Prty Toxic Poll. List

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

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Comment: Outdated priority pollutant list - p 42162. B. Statutory and Regulatory Background (paragraphs 3,4) - As noted in the preamble, the 1978 priority pollutant list has not been updated since January 1981. This has several important implications for this rule-making:

1. The absence of criteria for significant toxicants - Chemical usage changes over time. New chemical intermediates and products are continually being developed and brought to market. Pesticides, in particular, have a relatively short commercial existence. Of the approximately eighteen pesticides and metabolites on the priority pollutant list, all but two are now banned or significantly restricted. Newer, or otherwise non-listed, pesticides are not covered by the CTR even though there is evidence of their presence in surface waters and adverse impacts. The Pollutant Policy Document (SWRCB, May 1990 final draft) noted that the San Joaquin drains an agricultural area which may receive as much as 23 million kilograms of pesticides annually. In the river, it noted that, "Consistently detected are 2,4-D, atrazine, simazine, dacthal and diazinon." Yet this proposed rule contains criteria for none of these pesticides. Of particular importance is diazinon. Approximately 2,000,000 pounds are sold annually in California with about half going to agriculture and half to residential users. Monitoring by Alameda County has tied it to toxicity in some county creeks. Diazinon appears in all of Palo Alto's creeks at levels that -may be of concern (Fish and Game recommends 80 ppt to protect aquatic life and Palo Alto has detected it at up to 400 ppt.).

Although this pesticide is subject to hydrolysis and eventually breaks down, the process may take four to six months. More significantly, the U.S. Geological Survey has tracked pulses of this pesticide down the San Joaquin and Sacramento and into San Francisco Bay. During the USGS study, water samples from the San Joaquin were toxic for 12 consecutive days to the water flea, *Ceriodaphnia dubia*. (USGS, Water Fact Sheet, Diazinon Concentrations in the Sacramento and San Joaquin Rivers and San Francisco Bay, California, February 1993, K. Kuivila, 1993). The USGS report noted that other pesticides (chlorpyrifos, methidathion, and carbaryl) were also routinely detected in the samples and may have contributed to the toxicity. These other pesticides also do not have EPA criteria.

The Central Valley Regional Water Quality Control Board has detected diazinon, chlorpyrifos, fonofos, and carbaryl at concentrations toxic to *Ceriodaphnia*. In fact, the principal conclusion of their two and

half year study was that a 43 mile stretch of the San Joaquin River was toxic to Ceriodaphnia about half the time (Insecticide Concentrations and Invertebrate Bioassay Mortality in Agricultural Return Water from the San Joaquin Basin, CVRWQCB, December 1995). Other chemicals, methyl tertiary butyl ether (WBE), for example, a fuel additive, and related compounds are now showing up in California drinking water supply reservoirs and appear to be persistent

These unregulated toxicants are may be a significant water quality problem in California surface waters yet EPA has not found it appropriate to issue criteria for them. The excuse for inaction for all of these constituents cannot be that they have only recently appeared or have not been evaluated. Although MTBE is relatively new, in 1973, the National Academy of Sciences issued a guideline for diazinon of 9 ppt for the protection of aquatic life. More recently the California Department of Pesticide Regulation proposed quantitative response limits (QRLS) for diazinon, chlorpyrifos, and methidathion.

The CALFED program is proposing to spend a billion dollars over the next 20 years for water course and riparian habitat enhancements in the Delta. This effort will be undermined unless steps are taken to reduce toxicity from agricultural drainage.

The Clean Water Act in Section 303(c)(4) allows the Administrator to issue a standard in any case where it is necessary to meet the requirements of the Act. If there ever was an obvious, overwhelming need for standards, this is it. EPA needs to work with the State and agricultural interests to develop effective programs to control the release of pesticides to the inland surface waters and Bays and Estuaries of California

Response to: CTR-090-016

See response to CTR-090-005.

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Comment ID: CTR-090-017

Comment Author: C&C of SF, Public Util. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-20 Scope Prty Toxic Poll. List

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

**CROSS REFERENCES**

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Comment: 2. Criteria for no longer relevant toxicants - Listing chemicals which no longer have relevance to water quality is not as serious as omitting chemicals which are important. Listing irrelevant toxicants does, however, waste resources since these chemicals are routinely placed in NPDES permits with both effluent limits and mandated monitoring regardless of whether they have ever been detected. The result is permits with impressive lists of priority pollutants which give the false impression that they are comprehensive and therefore protective of the receiving waters.

For each chemical included in this rule-making EPA should demonstrate that the chemical is present either in effluents or receiving waters at concentrations which cause or have the reasonable Potential to cause, or contribute to an excursion above any criteria published by EPA under Section 304. The

adoption of irrelevant criteria is not "necessary to support such, designated uses," 303(c)(2)(B), and therefore can be omitted.

The information on which toxicants are present should be readily available since EPA receives the NPDES monitoring reports and state water quality assessments. By limiting the rule-making to real constituents of concern, we can - begin to focus on those toxic chemicals which are damaging the biota or threatening human health.

Response to: CTR-090-017

See response to CTR-090-005.

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Comment ID: CTR-095-001a  
Comment Author: M. Ruth Uiswander  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/02/97  
Subject Matter Code: C-20 Scope Prty Toxic Poll. List  
References:  
Attachments? N  
CROSS REFERENCES C-17a; C-21; C-14

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Comment: In regard to the numeric water quality standards criteria for California surface water, they have been revealed by environmental groups to be insufficiently protective and environmentally unjust. The proposed new rules assume fish ingestion of 6.5 grams per day. In reality, consumption of fish in some communities can be as high as 1 pound per day. This level of consumption is especially likely among subsistence fishers.

Please prevent toxic pollution in California's bays by making more protective standards that consider all toxic pollutants and consider the fish consumption habits of subsistence anglers.

Response to: CTR-095-001a

See response to CTR-061-006. With respect to fish consumption see responses to CTR-002-002a and CTR-002-005a (Category C-14; Fish or Water Consumption).

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Comment ID: CTR-100-001  
Comment Author: Michael A. McBride  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/04/97  
Subject Matter Code: C-20 Scope Prty Toxic Poll. List  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Great progress has been made in the last twenty years to clean our polluted streams, rivers and oceans. Please keep the pressure on the polluters by creating more protective standards that consider all toxic pollutants of concern. Thank you for your time and please let me know your thoughts.

Response to: CTR-100-001

See response to CTR-061-006.

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Comment ID: CTR-101-001b  
Comment Author: Cheesemans' Ecology/Brd Safari  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 10/06/97  
Subject Matter Code: C-20 Scope Prty Toxic Poll. List  
References:  
Attachments? N  
CROSS REFERENCES C-14

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Comment: We would like to thank the EPA for accepting comments on its proposed numeric water quality standards criteria for California surface water. We urge the prevention of toxic pollution in California's bays by creating more protective standards that consider all toxic pollutants of concern and that address the consumption habits of subsistence fishers, as well as "average" fish consumers.

Response to: CTR-101-001b

See response to CTR-061-006. With respect to fish consumption, see response to CTR-109-001a (Category C-14; Fish or Water Consumption).

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Comment ID: CTR-105-001a  
Comment Author: Heather Catherine Park Tausig  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/13/97  
Subject Matter Code: C-20 Scope Prty Toxic Poll. List  
References:  
Attachments? N  
CROSS REFERENCES C-14

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Comment: I understand that the EPA is currently accepting comments on its proposed numeric water quality standards criteria for California surface water. I am writing to urge the EPA support the prevention of toxic pollution in California's bays by creating more protective standards that consider all toxic pollutants of concern and that address the consumption habits of subsistence fishers, as well as "average" fish consumers.

Response to: CTR-105-001a

See response to CTR-061-006. With respect to fish consumption, see response to CTR-109-001a (Category C-14; Fish or Water Consumption).

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Comment ID: CTR-109-001b  
Comment Author: Maggie Miller  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 12/01/97  
Subject Matter Code: C-20 Scope Prty Toxic Poll. List  
References:  
Attachments? N  
CROSS REFERENCES C-14

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Comment: The new water quality standards the EPA is proposing for California surface waters disturbs me greatly. There are several problems with the proposed rules. First, in establishing standards for mercury, dioxin, PCBs, and other contaminants, the proposed new rules assume fish consumption at 6.5 grams per day yet consumption of fish in certain communities can be as high as one pound per day, over 60 times more than estimated by the EPA. Please don't underestimate fish consumption by people of different races and cultures.

Please prevent the toxic pollution of California waters by creating more protective standards that consider all toxic pollutants and all consumers of fish. Thank you.

Response to: CTR-109-001b

See response to CTR-061-006. With respect to fish consumption, see response to CTR-109-001a (Category C-14; Fish or Water Consumption).

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Comment ID: CTRH-001-016  
Comment Author: Greg Karras  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Comm. for Better Environ.  
Document Date: 09/17/97  
Subject Matter Code: C-20 Scope Prty Toxic Poll. List  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: As you know -- you should know -- EPA approved methyl tert-butyl ether, MTBE, a gasoline additive, creating the fastest-growing chemical market in the world, without any analysis of water quality effects. In addition to evidence of widespread groundwater and drinking water contamination, MTBE has been found many of our state's surface waters.

Will EPA not propose a criterion for MTBE? Why did they not propose one in this rule?

Response to: CTRH-001-016

See response to CTR-058-009.

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Subject Matter Code: C-21 Legal Concerns

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Comment ID: CTR-002-005b  
Comment Author: Comm. for a Better Environment  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-21 Legal Concerns  
References:  
Attachments? Y  
CROSS REFERENCES C-14

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Comment: C. Criteria for the pollutants of most concern do not provide equal protection for people of color and are not supportable by science.

EPA cannot show that its weaker proposed criteria will protect fishing and aquatic life from dioxin-like compounds, mercury, and copper. Further, EPA's proposal to allow greater health risks for subsistence fishers fails to provide equal protection under the law and is contrary to the President's Executive Order on Environmental Justice.

The proposed criteria provide unequal protection for people of color who fish for food. EPA admits in the proposal that: "There may be subpopulations within a state, such as subsistence anglers who as a result of greater exposure to a contaminant, are at greater risk than the hypothetical 70 kilogram person eating 6.5 grams per day of maximally contaminated fish.. ." Indeed, ample data show that some people exercise their fishing rights to "use" Bay waters by eating up to a pound (450 grams) per day of fish from San Francisco Bay, and most of them are people of color.(\*8) EPA's discussion then goes on to admit that it is proposing to provide less protection for these subsistence anglers: "[I]ndividuals that ingest ten times more of a carcinogenic pollutant than is assumed in derivation of the criteria at a [one excess cancer in a million] risk level will be protected to a [one in 100,000] level, which EPA has historically considered to be adequately protective." However, people who eat a pound per day eat seventy times more, and pages 8- 11 and 8-12 of EPA's economic analysis admit people eat 16 times more, than the 6.5 grams (1/70th of a pound) of Bay fish per day assumed in EPA's criteria. EPA's own calculations show present cancer threats of nearly 1 in 1,000 for some Bay anglers at these higher consumption levels. Thus, EPA itself predicts that its proposal will result in lesser, inadequate protection for people of color who rely on Bay-caught fish for food.

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(\*8) Previously unpublished data from a 1993-4 survey of 500 anglers using South and Central San Francisco Bay by Communities for a Better Environment-SAFER!; Save San Francisco Bay Association, 1995 (excerpt); West, 1992; West et al., 1992; Peterson et al., 1994; and USEPA, 1994.(excerpt of a draft report discussing and citing work by EPA, Wolfe and Walker (1987), Svensson (1991) and others. Includes analysis of the evidence..

Response to: CTR-002-005b

See response to CTR-002-005a (Category C-14; Fish and Water Consumption).

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Comment ID: CTR-002-009  
Comment Author: Comm. for a Better Environment  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-21 Legal Concerns  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: D. EPA's proposals fail to meet federal laws and regulations.

Proposed criteria would revise water quality standards contrary to law and regulations. Pursuant to 40 CFR section 131.22(c) revised water quality criteria must protect existing uses under 40 CFR section 131.12 (a)(1), and shall support the most sensitive designated use of Bay waters based on sound scientific rationale, under 40 CFR section 131.11(a)(1). However, EPA criteria for pollutants shown in Table 2 above do not meet these tests, as shown by sections II A, B, and C of these comments.

Inappropriate rejection of scientifically sound criteria for 16 dioxin compounds accumulation, and mercury and copper field data results in criteria which allow pollutant levels shown to threaten or harm aquatic life and the fishing public. Human health criteria do not protect people who eat up to a pound of Bay fish per day because EPA assumes people eat only 6.5 grams of these fish per day. In this crucial analysis, protecting the most sensitive use must mean protecting people who eat as much as a pound of fish per day (seventy times more than 6.5 grams), and more often than not are people of color fishing for food as well as recreation>(\*8) The criteria do not protect designated uses of Bay waters for fishing and propagation of aquatic life- based on sound science.

Even if EPA argues that some of the pollutants for which it proposes weaker criteria attain levels necessary to achieve water quality standards and protect fishing, aquatic life and wildlife, under 40 CFR 131.12(a)(2) EPA cannot allow water quality to be degraded because this is not "necessary to accommodate important economic or social development." At EPA's request, CBE has supplied evidence showing that long-term economic benefits to the manufacturing base resulted from pollution prevention measures driven by the implementation of state criteria more stringent than EPA's proposal with zero dilution effluent limits. The economy of this area, Silicon Valley, grew substantially at the same time and this growth was led by the industries involved in this effort. Although we are concerned that EPA seems to have arbitrarily rejected evidence that the most "stringent" criteria implementation resulted in economic benefit rather than cost, we trust EPA will agree there is no evidence that weakening these criteria is needed for economic or social reasons.

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(\*8) Previously unpublished data from a 1993-4 survey of 500 anglers using South and Central San Francisco Bay by Conunities for a Better Environment-SAFER!; Save San Francisco Bay Association, 1995 (excerpt); West, 1992; West et al., 1992; Peterson et al., 1994; and USEPA, 1994.(excerpt of a draft report discussing and citing work by EPA, Wolfe and Walker (1987), Svensson (1991) and others. Includes analysis of the evidence..

Response to: CTR-002-009

EPA disagrees with this comment. The CTR criteria are based on sound science and are protective of the most sensitive uses of waters in California, in compliance with 40 CFR 131.11(a)(1) and 131.22(c). The criteria are based on the uses which the State itself has designated: the CTR does not adopt or modify any use designations. The scientific bases for the CTR criteria are set forth in The California Toxics Rule Administrative Record Matrix.

As to some of the CTR criteria which this commenter claims will allow increases in pollution of San Francisco Bay, this commenter's concerns are no longer applicable. EPA's decision to not promulgate final CTR criteria for those waters where there are EPA-approved San Francisco Basin Plan criteria in effect addresses those CTR criteria which this commenter compares unfavorably to existing Bay Basin Plan criteria. (See response to CTR-016-001.)

As to those CTR criteria which the commenter compares unfavorably with ISWP and EBEP criteria, see response to CTR-002-003.

The commenter's implication that adoption of the CTR violates anti-degradation provisions in EPA's regulations is misplaced. In the first place, it is not appropriate to compare CTR criteria with California's ISWP and EBEP criteria for purposes of determining whether degradation of water quality may result from adoption of the CTR. The California criteria do not exist for purposes of making such a comparison, since the ISWP and EBEP were rescinded in 1994. Secondly, the adoption of criteria sufficient to protect designated uses is not an action which in and of itself results in any change in water quality. The implementation of such criteria may raise anti-degradation issues in specific instances in the future, but this rulemaking does not.

With respect to the commenter's concern about certain people eating more fish than 6.5 grams/day, see response to CTR-002-005a (Category C-14; Fish and Water Consumption).

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Comment ID: CTR-005-006a  
Comment Author: Novato Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/23/97  
Subject Matter Code: C-21 Legal Concerns  
References:  
Attachments? Y  
CROSS REFERENCES S; R

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Comment: 5. The proposed rule is inconsistent with applicable Federal law and regulations. In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. The Clean Water Act requires that water quality standards be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and also taking into consideration their use and value for navigation (See CWA section 303(c)(2)(A)). Consistent with this, EPA regulations require that water quality standards be based on identification of where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern. For those identified waters, states must adopt criteria for such toxic pollutants applicable to sufficient to protect the designated use"(See 40 CFR 131.1 1 (a)(2)).

Clearly the intent of both the Act and EPA regulations is that water quality standards be tailored to the characteristics of the waters in question. In failing to properly evaluate the rule's economic impacts and in failing to adequately consider regulatory alternatives, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act. In failing to properly consider the impacts on small entities, the rule is inconsistent with the Regulatory Flexibility Act.

Response to: CTR-005-006a

See responses to CTR-036-005, CTR 035-012a, and CTR 005-007a.

With respect to EPA's compliance with E.O. 12866, the Unfunded Mandates Reform Act, and the Regulatory Flexibility Act, see the preamble to the final rule, EPA's economic analysis conducted pursuant to the order, and the record for the rule. EPA notes that the water quality criteria only have an impact when the permit authority finds that a discharge has the reasonable potential to violate water quality standards. EPA based its economic analysis on two scenarios, a high end scenario and a low end scenario. The high end established baseline concentrations as being equal to existing permit limits, whether or not the pollutant was detected in the effluent. This provides an upper bound because most facilities typically discharge below their permit limit. The low end scenario is based on actual data about what pollutants are present in the effluent and the actual concentrations of the dischargers in the effluent.

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Comment ID: CTR-005-008b  
Comment Author: Novato Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/23/97  
Subject Matter Code: C-21 Legal Concerns  
References:  
Attachments? Y  
CROSS REFERENCES C-24

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Comment: 7. Separate, scientifically defensible, reasonably achievable aquatic life criteria for copper should be adopted for San Pablo Bay in the vicinity of the District's discharge, or alternatively EPA should state in the Preamble that the Regional Board should: (1) allow a dilution credit for the District based on modeling studies; and (2) apply metals translator determined based on EPA procedures from the results of the Regional Monitoring Program. To comply with the Clean Water Act and EPA regulations, EPA should consider specific water bodies. To fulfill the spirit of Presidential Executive Order 12866 and the requirements of the Unfunded Mandates Reform Act and the Regulatory Flexibility Act, EPA should evaluate regulatory alternatives based on an analysis of costs and benefits. Based on the analysis of costs and benefits performed by the District (see Attachment 1), EPA should either adopt the criteria that is currently achieved, or alternatively specify implementation criteria that will allow the current discharge to continue. The District has performed dilution studies (see Attachment 2) and performed reasonable potential analyses using dilution and metals translators (see Attachments 3 and 4). These show that with the use of these implementation provisions, the proposed criteria can be achieved in-stream. Without EPA specifying that dilution studies and metals translators should be utilized in the District's case, it is possible that the CTR could impose enormous costs on the District (and the small entities it serves) without providing any environmental benefit. In that case, the CTR would be

inconsistent with the Clean Water Act, EPA regulations, Presidential Executive Order 12866, the Unfunded Mandates Reform Act and the Regulatory Flexibility Act.

Response to: CTR-005-008b

See response to CTR-005-008a (Category C-24; Site-Specific Criteria).

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Comment ID: CTR-007-004  
Comment Author: Port of San Diego  
Document Type: Port Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-21 Legal Concerns  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: 3. The District requests that in the Final CTR, a provision be placed in the rule that grants a waiver to the water quality criteria or that the approach is shifted to a risk based approach where an agency or responsible party engages in cleanup or remediation activities.

Response to: CTR-007-004

EPA disagrees with this comment. The CTR does not include implementation provisions because this rule's intent is to implement section 303(c)(2)(B) of the CWA for California. EPA believes that implementation of these provisions is appropriately left to the state. To the extent that this commenter is proposing implementation provisions that are consistent with CWA requirements, such provisions may be considered by the State for inclusion in its implementation plan. 40 CFR 131.11. See also response to CTR 042-007a. Further, designation of uses is primarily left to the states. In this rule, EPA is simply establishing criteria necessary to protect the designated uses. Use designation may consider economics. If a state wishes to designate a use that is not a CWA section 101(a) use, the state must conduct a use attainability analysis to determine that the use is not attainable.

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Comment ID: CTR-010-003  
Comment Author: Save San Francisco Bay Assoc.  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-21 Legal Concerns  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: EPA's proposal also does not comply with the federal Clean Water Act and is certain to stir up

a hornet's nest of protest if moved forward. The proposals also restrict the ability of the public and concerned agencies from involvement in ensuring standards are complied with. U.S. environmental policy is often hamstrung by the short-term, corporate bottom line influence to the detriment of the vast majority. Ultimately such short-sightedness will result in not only a continued worsening quality of life for the general public, but also in a loss of economic competitiveness to those industries and countries able to profit from pollution prevention.

Though the mission of the U.S. EPA is to protect the environment, the California Toxics Rule harms the environment. The proposed criteria should be revised before being adopted. We would welcome the opportunity to discuss these issues with you, along with other concerned parties. We would also appreciate a response to this letter.

Response to: CTR-010-003

EPA disagrees with this comment.

First, concerning the ability of the public and concerned agencies to be involved in ensuring that standards are complied with, EPA reaffirms that the CTR is an adoption of criteria, and it does not include implementation provisions. The State is responsible for the application of CTR criteria to point and non-point sources. The State is currently developing a plan for implementation of the CTR criteria, following its own public participation requirements (Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, September 11, 1997). Furthermore, as the State applies CTR criteria in specific actions that it will take in the future, such as issuing discharge permits, the public can pursue applicable participation opportunities as they arise. The commenter has not explained how the rule will impair the ability of the public and concerned agencies to ensure standards are complied with.

Secondly, EPA cannot respond specifically to the comment regarding the influence of "the short-term, corporate bottom line" on federal environmental policy, as there is no support for this conclusory statement. Although Executive Order 12866 and the Unfunded Mandates Reform Act require EPA to estimate the costs of certain rules (rules deemed "significant under the E.O., and rules that require "Federal mandates" that may result in expenditures in excess of 100 million/year under UMRA, the E.O. and UMRA do not override applicable law. Under the CWA, economics or cost benefit analysis is not a basis for adopting water quality criteria. See CWA section 303(c), 40 CFR 131.11. See response to CTR-042-007a. For a discussion of the Regulatory Flexibility Act, see the preamble to the final rule. The CTR fully complies with all of these requirements.

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Comment ID: CTR-020-002

Comment Author: City of Stockton

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-21 Legal Concerns

References:

Attachments? Y

CROSS REFERENCES

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## Comment: 1. General Comments

### A. Applicability of the Rule is Overly Broad

The CTR applies the various water quality criteria to "all waters of the United States" regardless of the actual aquatic life or beneficial uses present. EPA specifically disclaimed any need to individually assess hydrologic unit needs as mandated by the Porter-Cologne Act and the court decision overturning the Inland Surface Waters Plan ("ISWP"). In effect, this means that the CTR will be applied in an overly broad manner, particularly with respect to storm water discharges, as the criteria designed for high quality warm and cold water fisheries will be applied to storm water ditches which the Agency may classify as intermittent streams pursuant to the Regional Water Quality Control Board's (the "Regional Board") "tributary policy" (i.e., tributaries are presumed to contain the same uses as designated main streams). Such water bodies are dry other than during precipitation events and cannot maintain sensitive aquatic life uses. These water bodies have not been classified for specific use protection, and approved Basin Plans allow consideration of site-specific factors in determining actual use protection needs.

EPA's Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and their Uses (1985) ("National Guidelines") specify that criteria must be applied in the manner in which they were derived to provide reasonable and appropriate protection. Federal water quality regulations (40 CFR Part 131) also specify that water quality criteria must be necessary to protect the beneficial uses. Thus, EPA lacks authority to establish water quality criteria that are more restrictive than necessary to ensure that actual uses will be protected. The Agency's attempt to apply stringent water quality criteria to water bodies that either have no reasonable likelihood of maintaining sensitive aquatic life or have not been classified by the state to protect such uses is arbitrary and capricious. In addition, application of stringent human health ingestion-based and fish tissue criteria to receiving waters that lack a potable water supply use or that cannot support a game fishery is clearly not consistent with the National Guidelines and is unnecessarily restrictive. Similarly, pursuant to the Porter-Cologne Act and applicable case law, EPA may not enact requirements that would otherwise be unlawful under California law.

As the Porter-Cologne Act would not allow such action (i.e., overly broad use designations) on the part of the State's Water Quality Control Boards, EPA needs to restrict the application of the CTR to circumstances where the water quality criteria are reasonably applicable. Thus, the proposed criteria for aquatic life should only be applied to perennial streams and not to intermittent watercourses that primarily exist during rainfall events. Human health criteria that include a water ingestion component should only be applied to water bodies that have a demonstrated capability to provide potable water, and application of the criteria should be at the water intake (which would allow for loss of pollutant in the environment and documented pollutant reduction achieved by the water treatment facility). Applying the ingestion-based criteria at appropriate water intake points will help to avoid the assumption that surface waters are consumed without treatment, as such an assumption is not lawful under the Safe Drinking Water Act.

Response to: CTR-020-002

EPA disagrees with this comment. EPA must adopt criteria in accordance with the requirements of the CWA. As a federal agency, EPA is not subject to the requirements of the Porter-Cologne Act, which is State law, nor to the State court decision which overturned the ISWP and EBEP.

Regarding the failure to individually assess the needs of hydrologic units, such an undertaking would amount to adoption of site-specific criteria. It is beyond the scope of the CTR to adopt site-specific

criteria for individual pollutants and/or water bodies, based on localized information and data. As explained in the preamble to the proposed CTR, and further discussed in the response to CTR-003-006, et al., EPA will work with the State to approve acceptable State-adopted criteria (including site-specific criteria) and to stay the CTR where such State criteria are in effect.

EPA further disagrees that the CTR criteria will be applied "in an overly broad manner," based on EPA's failure to consider the actual uses of specific water bodies. The CTR does not modify or adopt any uses for any waters. Rather, the CTR adopts criteria for waters of the United States in California to protect aquatic life and human health uses already designated by the State. It is not arbitrary or capricious for EPA to rely on uses designated by the State in accordance with its own laws. Commenters may seek to have the State modify or eliminate uses for particular water bodies; however, EPA cautions that the State is subject to the requirements of 40 CFR 131.10 if it undertakes to do so.

Finally, EPA disagrees that it lacks authority "to establish water quality criteria that are more restrictive than necessary to ensure that actual uses will be protected." (Emphasis added.) The term "actual uses" is an undefined term, but the commenter clearly uses it to describe uses that differ from designated uses. EPA has the authority as well as the legal obligation to adopt criteria which protect the designated uses, however, even if such uses require a greater level of protection than existing uses. 40 CFR 131.5(a)(2); 131.6(c); 131.11(a). If an existing use (as defined in CWA regulations) is less sensitive than the designated use, then the appropriate initial response is not to adopt less stringent criteria to protect the less sensitive use. That would not be allowed unless the designated use itself had been modified. The State may undertake to modify designated uses, including, in some instances, downgrading some uses, in accordance with 40 CFR 131.10, but no such action has been taken which would affect the adoption of the final CTR.

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Comment ID: CTR-031-003a

Comment Author: Fresno Metro. Flood Ctrl Dist.

Document Type: Flood Ctrl. District

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-21 Legal Concerns

References: Letter CTR-031 incorporates by reference letter CTR-027

Attachments? N

CROSS REFERENCES I-03

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Comment: If the proposed rule is carefully and sufficiently modified to affirm a commitment by EPA to effect only its Congressional authorization as established by CWA section 402(p), then EPA's failure to assess municipal storm water dischargers' ability to attain the proposed standards and associated economic and environmental impacts may be set aside at this time. However, if EPA persists in maintaining the CTR as drafted in this regard, the ambiguities presented in the preamble demand serious consideration and analyses as follows.

a. Many of the criteria are not attainable or scientifically valid with regard to municipal storm water dischargers, nor is the proposed approach consistent with an appropriate delegation of authority to the State.

i. Attainability of Standards

The statutory premise of the CWA is to provide water quality for protection and propagation of aquatic life, wildlife, and recreation wherever attainable. The CWA therefore establishes a reality test in that objectives must be attainable.

The proposed CTR criteria can not be attained by municipal storm water dischargers. The District treats through detention and retention all but 1% of its urban runoff on an annual average basis. Nonetheless, its urban runoff discharges, after detention, would exceed proposed dissolved copper, lead, and zinc criteria. Concentrations would need to be reduced by 67%-95% to meet the proposed chronic criteria. No storm water best management practices, including conventional end-of-pipe storm water treatment facilities (i.e., detention systems), are believed to be able to achieve these levels of reductions for these constituents.

Response to: CTR-031-003a

EPA disagrees with this comment. There is no authority for revising the proposed CTR criteria based on the considerations cited in this comment. Water quality criteria adopted pursuant to CWA section 303 must be based on sound science and must protect the designated uses of the water bodies to which they apply. 40 CFR 131.11. There is no provision for EPA to consider the attainability or the scientific validity of the criteria with regard to specific dischargers or class of dischargers in adopting ambient water quality criteria in the CTR. Attainability issues may be considered in accordance with CWA section 303 in designating or modifying uses for those water bodies; however, the CTR does not undertake to modify or adopt any uses for waters in California. Scientific validity of criteria is based on ambient conditions, not on dischargers. The scientific bases for the CTR criteria are set forth in The California Toxics Rule Administrative Record Matrix.

In raising the question of storm water dischargers' ability to attain CTR standards, this comment apparently relies on language in CWA section 402(p) which requires storm water dischargers to reduce pollutants only to the maximum extent practicable (MEP). MEP, however, is a point source permitting standard; it does not apply to the adoption of ambient water quality criteria. Moreover, EPA has interpreted the MEP standard as applying only to technology-based permit requirements. It does not affect the requirement of CWA section 301(b)(1)(C) that CWA permits include limitations necessary to meet water quality standards. Memorandum from E. Donald Elliot, Assistant Administrator and General Counsel, to Nancy J. Marvel, Region 9, dated January 9, 1991.

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Comment ID: CTR-034-010b

Comment Author: SCAP

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-21 Legal Concerns

References: Letter CTR-034 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES C-28

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Comment: \* SCAP recommends that EPA defer adoption of criteria contained in the draft CTR which are typically below detection limits. While we understand EPA's rationale for setting criteria that may

not be detectable based on EPA's determination of the criteria needed to adequately protect aquatic life and human health, we believe that EPA has not fulfilled its duties under the Clean Water Act, Unfunded Mandates Act, and E.O. 12866. In accordance with federal water quality standards regulations, EPA is required to review water quality data and information on discharges to specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use (see 40 CFR section 131.11). Thus, if the pollutant has not been detected, there is no basis for determining whether the chemical is adversely affecting water quality or the attainment of designated uses.

Further, EPA cannot make an accurate determination of the costs and benefits of promulgating CTR criteria for those criteria that are below detection levels. It is quite likely that detection limits for some substances will improve in the near future, and dischargers previously projecting full attainment will no longer be able to comply. For instance, a SCAP member agency was issued an NPDES permit in the early 1990s containing effluent limits for a number of toxic pollutants. In this agency's case, lindane was not being detected at the time of permit issuance (and the detection level was higher than the permit limit). Yet, in the following years, the detection level dropped and this agency began to experience exceedences of the permit limit. Lindane cannot be readily controlled at the source by normal industrial waste source control methods because it is in widespread use by consumers. Therefore, the only reliable option for the POTW to come into compliance may be to add end-of-pipe treatment, a very expensive proposition. This scenario is likely to happen again with many of the criteria being proposed in the CTR. The potential compliance costs could be high, yet the Economic Analysis for the draft CTR could not estimate such costs. For all of the above reasons, EPA should defer adoption of these criteria until they can be detected and EPA can more fully determine the potential economic impacts of promulgation of the CTR. Instead, we recommend that a watershed approach be used to address these pollutants (see below).

Response to: CTR-034-010b

EPA disagrees with the commenter that it should defer promulgating water quality criteria below detection limits or that such promulgation is in any way inconsistent with the CWA, UMRA, or E.O. 12866. EPA's water quality standards regulation at 40 CFR 131.11 requires that criteria be adopted by the States at concentrations necessary to protect the designated use. Given this requirement, consideration of analytical detectability is not an appropriate factor to consider when calculating water quality criteria to protect designated uses since they are not related to actual environmental impacts. As EPA stated in the preamble to the National Toxics Rule, 57 FR 60876, col. 1, this has been the Agency's longstanding position. See also 57 FR 60870. EPA's criteria are based on scientific information about a pollutant's toxic effects, without regard to analytical methods or techniques. The criteria are based on the concentrations that either cause toxic effects to aquatic life or to human health. EPA's criteria development methods for aquatic life are generally based on laboratory analyses with sensitive aquatic life. The results from these tests are analyzed by mathematical procedures outlined in EPA's criteria guidelines. EPA's human health criteria are developed from protocols generally using toxicity studies on laboratory animals such as mice and rats. Thus, because the criteria are based on data showing toxic effects, EPA does not believe that the analytical detection limit should determine the basis for the criteria.

The water quality standards established in this rule are not self implementing; they will be applied by the State in developing total maximum daily loads, wasteload allocations to point sources, (which may be used to develop NPDES permit limits) and load allocations to nonpoint sources. The sensitivity of analytical methods is relevant for determining compliance with water-quality based permit limits. The permit authority, here the State of California, establishes the analytical methodology to be used for

determining compliance with the permit limit. EPA has issued guidance on how constituents with water quality criteria below the sensitivity of official analytical methods (i.e., those listed in 40 CFR Part 136) are established in permits. See Strategy for the Regulation of Discharges of PHDDs and PHDFs from Pulp and Paper Mills to Waters of the United States, memorandum from the Assistant Administrator for Water to the Regional Water Management Division Directors and NPDES State Directors, May 21, 1990. This guidance presents a model for addressing toxic pollutants which have criteria recommendations less than current detection limits and it is applicable to other criteria as well. The guidance explains that standard analytical methods may be used for determining compliance with permit limits but not for establishing water quality criteria or permit limits. Also, EPA's Great Lakes Guidance Procedure 8 specifies that where the water quality-based effluent limit is lower than the pollutant's quantification level, the quantification level is the method for determining compliance with the limit. This approach is mandated by the CWA, which requires that permit contain WQBELs as necessary to achieve standards. (CWA section 301). Neither EPA nor the States are authorized to set WQBELs at higher levels simply because of technical difficulties in measuring compliance. See NRDC. v. EPA, 859 F.2d 156, 208 (D.C. Cir. 1988)("Congress did not intend to tie compliance with water quality-based effluent limitations to the capabilities of any given level of technology."] It should also be noted that by the time criteria are converted into permit limitations after calculating total maximum daily loads, waste load allocations and load allocations, the actual permit limit may be in the range of standard analytical methods cited by EPA in 40 CFR Part 136.

EPA also establishes water quality criteria for many chemicals of concern because they biomagnify in the tissue and organs of fish (e.g., mercury and PCBs) to levels that can adversely effect aquatic life, wildlife and human health. Fish tissue information can be used to determine if the water body is attaining water quality standards even when the water quality criteria and instream pollutant concentrations are below detectable levels. For chemicals that are not highly bioaccumulative but have criteria below detectable levels, fate and transport (mass balance) models can be used to predict instream pollutant concentrations and attainment of water quality criteria and designated uses. This information with other field observed data showing stress or adverse effects on the biological community serve as an earlier warning to the public that water quality is being degraded and steps must be taken if the designated use for the water body is to be protected and maintained.

The decision to maintain a designated use or to downgrade the water body to a lower use designation is a place-based decision that must rest solely in the hands of the local community, elected officials and other stakeholders that use the water resource affected by such decisions. Therefore, the importance of adopting statewide numeric water quality criteria to protect designated uses (e.g., fishable, swimmable) is not predicated on costs or benefits but on the public's "right-to-know" and participate in decision-making affecting their water resources. Congress understood this and in CWA sections 303 and 304 preserved the public's right-to-know about the condition and safety of the waters they use for food, drinking, recreation and commerce. See responses to CTR-036-005 and CTR-O42-007a.

With respect to EPA's compliance with UMRA and E.O. 12866, see the preamble to the final rule and EPA's Regulatory Impact Analysis conducted for the rule. Although analytical detection limits may improve in the future, EPA has reasonably estimated the costs of the rule in the regulatory impact analysis based on the best available data about how permit limits might change under the final rule. EPA evaluated the costs of attaining permit limits derived from CTR criteria but maintains that the costs associated with attaining effluent limits that are less than detectable levels are speculative and EPA's methods may tend to overstate costs. Nevertheless, EPA estimated costs under a high scenario using assumptions about how much pollutant reduction would be required even when it had "no" effluent data indicating the presence of the pollutant in the discharge or that the control strategy was actually necessary.

EPA's estimates of costs include control technology costs for pollutant reduction that would be required to reduce pollutant levels to the MDL as well as pollutant minimization programs to reduce the pollutant level to below the MDL. EPA's estimates reflect the goal of reducing all potential sources of the pollutant necessary to maintain the final effluent quality discharged to the receiving water to a level at or below the permit limit. The costs for pollutant minimization programs include both capital and O&M costs to find sources and implement reduction control strategies. EPA estimated these costs both for direct municipal and industrial dischargers as well as for indirect discharges to publicly owned treatment works (POTWs). Thus, EPA accounted for all anticipated costs to the extent feasible, even in situations where potential "hidden" pollutant loads may exist below detectable levels.

The issue of potential hidden loads raised by commenters on the CTR is not new. In 1994, EPA evaluated a sample of nine POTWs in the Great Lakes Basin using super-clean and high-resolution analytical methods (many of which were experimental) to determine whether, in fact, there was a substantial hidden pollutant load of bioaccumulative chemicals of concern (BCC). This study was undertaken because the regulated community in the basin raised concerns regarding the potential presence of mercury and other BCCs just below current Part 136 methods and the associated costs to remove these potential hidden loads. EPA assumed BCCs to be ubiquitous in the Great Lakes Basin at major POTWs because of the historical widespread use of these chemicals and well documented problems in the basin. Therefore, EPA concentrated its sampling efforts on POTWs which have less control of the potential sources of BCCs being discharged to their collection system than industrial dischargers.

In this study, EPA found the infrequent presence of BCCs (38 detections in 477 observations, approximately 8%) in POTW effluents. Of BCC's detected, mercury was detected at each of the POTWs (either as total mercury or methyl mercury). The concentrations of mercury found in POTW effluents were above EPA's most stringent ambient water quality criterion for the Great Lakes Basin in five of the nine samples taken. Where effluent concentrations exceeded the ambient criterion, however, they did so by small amounts, indicating that pollutant minimization programs (PMPs) would more than likely control mercury discharges to the levels required to comply with permit limits. The results of the study, when extrapolated to the universe of 316 POTWs in the Great Lakes Basin, indicates that the median concentration of mercury in all effluents is 0.99 ppt, the 75th percentile is 5.14 ppt, and the 95th percentile is 55.0 ppt.

These results indicate substantial compliance with permit limits significantly more stringent than those expected from CTR-based criteria and would not indicate substantial additional costs if the facilities were required to demonstrate compliance through analytical methods with lower MDLs. Furthermore, the study demonstrates that hidden pollutant loads do not exist at the levels once thought even for highly contaminated areas. This information is important when evaluating the economic analysis for the CTR because it indicates that the estimated costs at the high end of the cost range for the CTR, which accounts for controlling hidden pollutant loads where no effluent data exists may never materialize should analytical methods improve in the future.

EPA has also identified a number of locations where pollutant minimization programs have either been highly effective in reducing pollutant loads or have been implemented but have had inadequate time to determine results. For example, the Inland Empire Utilities Agency, serving the Chino Basin with three POTWs, has successfully reduced lindane in its effluents to permit limits through education of health authorities and pest service providers on effective alternatives to lindane-based products for lice and flea control. A similar program is being implemented at a facility in Arizona. The Western Lake Superior Sanitary District's (WLSSD) efforts to reduce mercury levels in their effluent include diverting

incinerator scrubber water; implementing external source identification studies and subsequent control programs at a pulp and paper mill, dental facilities, and medical facilities and laboratories; and conducting extensive public education and outreach, including mercury collection under a bounty program. As of 1996, WLSSD had successfully reduced mercury concentrations at their waste water treatment plant by more than 74% from 1990 dry sludge levels (from 4.50 ppm to 1.15 ppm) and by more than 97% from 1990 effluent levels (from 0.58 ppb to 0.015 ppb). The following are some additional examples of pollution prevention activities undertaken by facilities in the State of California:

- \* Replaced a sewer running through an arsenic-contaminated Superfund site (City of Palo Alto, California Regional Water Quality Control Plant).
- \* Allowed diversion of residential graywater containing mercury for use as on-site irrigation (City of Palo Alto, California Regional Water Quality Control Plant).
- \* Developed BMPs with medical facilities/offices about the use of mercury, handling of mercury-containing wastes, management of mercury-containing reagents, prevention and response for mercury spills, nonmercury analytical methodologies, and nonmercury-containing equipment (City of Palo Alto, California Regional Water Quality Control Plant).
- \* Educated pharmacists on mercury-containing products (City of Palo Alto, California Regional Water Quality Control Plant).
- \* Developed BMPs addressing mercury-containing equipment and reagent handling in laboratories (City of Palo Alto, California Regional Water Quality Control Plant).
- \* Published and distributed a BMP booklet to local pottery studios, schools, and art supply stores (City of Palo Alto, California Regional Water Quality Control Plant).
- \* Reduced the local discharge limit for nickel (applicable primarily to metal finishers) (City of Palo Alto, California Regional Water Quality Control Plant).
- \* Educated photo processors and medical and dental offices processing x-rays on silver use and disposal (City of Palo Alto, California Regional Water Quality Control Plant).

As a final point, EPA does not wish to delay or defer any further having ambient criteria for toxics as required under section 303(c)(2)(B) of the CWA. California is the only state in the nation without such numeric limits and it is important in order to meet the requirements of the CWA to bring California into compliance with the CWA by promulgation of this rule.

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Comment ID: CTR-035-012a  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-21 Legal Concerns  
References:  
Attachments? N

Comment: 1. Comments on Proposed Rule A. General Comments p. 42166-67 --Legal Basis

EPA argues that:

EPA does not believe that it is necessary to support the criteria proposed today on a pollutant-specific, water body-by-water-body basis. For EPA to undertake an effort to conduct research and studies of each stream segment or water body across the State of California to demonstrate that for each toxic pollutant for which EPA has issued CWA section 304(a) criteria guidance there is a 'discharge or presence' of that pollutant which could reasonably 'be expected to interfere with' the designated use would impose an enormous administrative burden and would be contrary to the statutory directive for swift action manifested by the 1987 addition of section 303(c)(2)(B) to the CWA.

Contrary to EPA's argument, we believe that the requirement in Section 303 of the CWA that States adopt water quality standards where there is a discharge or presence of toxic pollutants in the affected waters which could reasonably be expected to interfere with designated uses, applies to EPA. EPA's claim that such a review would impose an "enormous administrative burden" is not compelling, since States, in their adoption of water quality standards, must perform this pollutant specific review of each stream segment under the express terms of Section 303(c)(2)(B). EPA's own regulations require that, in promulgating water quality standards for a State, EPA is subject to "the same policies, procedures, analyses, and public participation requirements established for States in these regulations" (40 CFR section 131.22). The regulations require States to "review water quality data and information on discharges to specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use"(40 CFR section 131.11)(emphasis added). Thus, the regulations regarding the adoption of water quality standards do not suggest that States adopt uniform water quality standards for every water body merely because there may be a large amount of work required to determine the appropriate water quality standards for each water body. We especially believe this issue to be pertinent to pollutants for which the proposed CTR criteria are below detection levels. We therefore recommend that EPA defer the adoption of criteria for constituents which are below detection limits until such time as data are available demonstrating that particular toxic pollutants are being discharged to specific water bodies at levels to warrant concern. The pollutants in this category include the following: aldrin, alpha-BHC, beta-BHC, chlordane, 4,4'-DDD, 4,4'-DDT, 4,4'-DDE, dieldrin, 2,3,7,8-TCDD (dioxin), endosulfan I, endosulfan II, endrin, endrin aldehyde, heptachlor, heptachlor epoxide, toxaphene, PCB-1016, PCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, PCB-1260, hexachlorobenzene, n-nitrosodi-n-propylamine, pentachlorophenol, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. EPA, upon determining that promulgation of a 303(c)(2)(B) criterion is necessary, should promulgate the criterion on a water body-specific basis. Also, EPA would need to conduct an economic impact analysis at that time. Finally, as with the CTR, EPA must pursue adoption of these criteria through a rulemaking process, allowing opportunities for public review and comment in accordance with the Clean Water Act and Administrative Procedures Act.

Response to: CTR-035-012a

EPA disagrees with the commenter. See response to CTR-036-005. In addition to the response outlined above, the commenter cites EPA regulations at 40 CFR 131.11 and 131.22 arguing that the regulation

constrains how EPA may implement CWA section 303(c)(2)(B) . The regulation cited by the commenter with respect to toxics control, 131.11, however, was part of the 1983 water quality standards regulations (48 Fed. Reg. 51400, Nov. 8, 1983), which preceded by several years enactment of CWA section 303(c)(2)(B) as part of the 1987 Amendments to the CWA. EPA did not amend the regulations after enactment of section 303(c)(2)(B), but instead issued guidance interpreting how the provision could be implemented by states consistently with the statute. Availability of the guidance was published in the Federal Register at 54 Fed. Reg. 346 (Jan. 5, 1989) and discussed at length in the preamble to the final National Toxics Rule at 57 Fed. Reg. 60848, 60853 (Dec. 22, 1992). In this guidance, EPA stated that states could implement CWA section 303(c)(2)(B) in three different ways, as specified by its 1989 Program Guidance for Implementing Section 303(c)(2)(B):

Option 1. Adopt statewide numeric criteria in State Water Quality Standards for all section 307(a) toxic pollutants for which EPA has developed criteria guidance, regardless of whether the pollutants are known to be present.

Option 2. Adopt chemical-specific numeric criteria for priority toxic pollutants that are the subject of EPA section 304(a) criteria guidance, where the State determines based on available information that the pollutants are present or discharged and can reasonably be expected to interfere with designated uses.

Option 3. Adopt a procedure to be applied to a narrative water quality standard provision prohibiting toxicity in the receiving waters. Such procedures would be used by the State in calculating derived numeric criteria which must be used for all purposes under section 303(c) of the CWA.

In this rule, EPA has adopted the first approach. In addition, EPA has gathered information on the presence of toxic pollutants in the waters of the State to the extent possible, but does not believe it is necessary to demonstrate impairment of the water before applying ambient criteria to the water for the reasons stated in See response to CTR-036-005. However, because EPA has chosen an approach consistent to the guidance it gave the states, EPA has applied the same requirement of scientific defensibility it would require of states, and because EPA has allowed for public comment on the rule, EPA has applied the same policies, procedure, analyses and public participation requirements it established for States in Part 131.

Finally, with respect to detection levels, see responses to CTR-034-010b; CTR-005-009; CTR011-002; CTR-013-004; CTR-020-020; CTR-021-005b; CTR-027-004; CTR-030-009; CTR033-003a; CTR-034-010a; CTR-035-005; CTR-035-012b.

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Comment ID: CTR-036-005

Comment Author: County of Orange

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-21 Legal Concerns

References: Letter CTR-036 incorporates by reference letters CTR-013, CTR-018, CTR-031, CTR-034 and CTR-040

Attachments? N

CROSS REFERENCES

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## Comment: Authority for EPA to Adopt Statewide Criteria

Contrary to what EPA asserts, it cannot promulgate statewide water quality criteria for priority toxic pollutants without considering whether the discharge or presence of such pollutants will interfere with the specific designated uses of those California waters that are covered by the criteria. Under Section 303(c)(4)(B) of the CWA, EPA is permitted to "promptly prepare and publish proposed regulations setting forth a revised or new water quality standard for the navigable waters involved in any case where [EPA] determines that a revised or new standard is necessary to meet the requirements of [the CWA]." 33 U.S.C. section 1313(c)(4)(B). However, a water quality standard consists of both "the designated uses of the navigable waters involved" and the "water quality criteria for such waters based upon such uses." 33 U.S.C. section 1313(c)(2)(A).

Here, EPA has proposed water quality criteria for California waters, not water quality standards. More importantly, EPA has failed to develop such criteria "based upon" the designated uses of these waters. EPA has not determined whether these criteria pollutants are present in all California waters. EPA attempts to argue that there is evidence in the record indicating the presence of priority toxic pollutants throughout the waters of the States, yet EPA admits that the evidence is "not necessarily complete (62 Fed. Reg. 42160, 72167) nor has EPA determined whether the discharge or presence of these pollutants "could reasonably be expected to interfere with" the designated uses of such waters, as is required under CWA Section 303(c)(2)(B). See 33 U.S.C. section 1313(c)(2)(B).

EPA argues that it would be an "enormous administrative burden" for it to determine on a "water body-by-water body basis" whether the discharge or presence of the priority toxic pollutants could reasonably be expected to interfere with the designated use of affected waters. [62 Fed. Reg. 42160, 42166]. EPA further asserts that interpreting Sections 303(c)(2)(B) and (c)(4) to require it to perform "such a cumbersome pollutant specific effort on each stream bed" in California would render Section 303(c) meaningless [Id. at 42167]. Finally, EPA claims that based on the statutory language, purpose and legislative history of Section 303(c), it is empowered to act swiftly and promptly when it determines that new or revised standards are necessary to comply with the CWA, and thus it may disregard the strictures of CWA Section 303(c)(2)(B). Id.

Unfortunately, these arguments ignore the plain meaning of Section 303(c). EPA must (1) promulgate water quality standards, not water quality criteria, when it determines that such standards are necessary to meet the requirements of the CWA, and (2) develop these water quality standards taking into account the designated uses of the waters to which such standards are being applied. 33 U.S.C. sections 1313(c)(2), (4).

Moreover, the call to prompt action contained in section 3043(c)(4) cannot be read in a way that transforms the remaining provisions of Section 303(c) into mere surplusage. Despite EPA's assertion that the "numerous deadlines" imposed by Section 303(c) require it to ignore the demands of Section 303(c)(2)(B), there in fact is no specific time frame within which EPA must promulgate a new or revised water quality standard when it acts pursuant to section 303(c)(4). Thus, the requirements that EPA act "promptly" govern the manner, not the time frame, in which it must act.

Nor can the legislative history of Section 303(c) be used to ignore the express language and plain meaning of section 303(c)(2)(B). When a statute is plain and unambiguous on its face there is no need to look to legislative history as a guide to its meaning [ *Tennessee Valley Authority v. Hill*, 437 U.S. 153 (1978)]. The requirement of Section 303(c)(2)(B) to determine whether the "discharge or presence" of priority toxic pollutants "could reasonably be expected to interfere with" the designated uses of affected waters is not ambiguous, even juxtaposed with the requirement that EPA act "promptly". Congress may

have wanted EPA to act promptly, but it equally wanted EPA to act within the constraints of Section 303(c).

In short, Congress's supposed quest for swift action is not enough to ignore the plain language of Section 303(c). Legislative history may be considered where the plain meaning of statute produces an absurd result, but it may not be considered where it merely produces a "cumbersome" one.

Response to: CTR-036-005

EPA disagrees with the comment. EPA interprets section 303(c)(4)(B) to give EPA authority to act if the State fails to act by promulgate ambient water quality criteria pursuant to section 303(c)(2)(B) for water bodies with either human health or aquatic life uses designated by the state for pollutants for which EPA has issued national section 304(a) recommended criteria guidance. As EPA has reiterated throughout the rulemaking record, EPA's strong preference would have been for the state to take the lead in promulgating these criteria. Pursuant to section 303(c)(4)(B), the State's failure to take such action after its standards were invalidated in state court constitutes a failure to meet the requirements of the Act under CWA section 303(c)(2)(B). Further, EPA is acting consistent with its authority because as explained below, the criteria in the rule are ambient criteria that define attainment of the designated uses, and they will result in additional controls on dischargers only where necessary to protect the designated uses.

EPA disagrees with the comment that it has somehow violated the CWA by promulgating water quality criteria instead of "water quality standards." EPA's regulations explain that there are three components to water quality standards, designated uses; water quality criteria to protect those uses, and an antidegradation policy. See 40 CFR Part 131.6. In the rule, EPA is promulgating one component of water quality standards because this is what the state has failed to do. The CWA's reference to water quality standards, a broader authority encompassing designated uses, criteria to protect those uses and an antidegradation policy, does not preclude EPA from issuing one component of standards, water quality criteria.

EPA disagrees that it has failed to develop such criteria "based upon" the designated uses of such waters. The criteria in the rule are based on protection of human health (either through ingestion of drinking water or drinking water and organisms) or aquatic life (saltwater or freshwater) which relate directly to the uses designated by the State of California for the waterbody. The State has designated the waters covered by this rule for a number of uses related to recreation, drinking water and aquatic life. The State always retains the discretion to change the designated uses of the State, as long as it meets the criteria set forth in 40 CFR 131.10. These criteria define what is necessary to protect the designated use. In essence, EPA's interpretation of section 303(c)(2)(B) of the CWA means that if the discharge or presence of the pollutant exceeds the criteria values, the discharge or presence of the pollutant would interfere with the designated uses of the waterbody.

As these are ambient criteria, they do not in and of themselves require control of a discharge. The ambient criteria are implemented in two ways -- to point sources through NPDES permits for direct dischargers (that may be based on wasteload allocations in impaired waters) or pretreatment standards for indirect discharges (both of which are enforceable limits) and through load allocations for non-point sources (which are not enforceable under the Clean Water Act, but which represent the portion of a receiving waters receiving capacity attributable to a non-point source that would attain applicable water quality standards). Under the NPDES regulations, the ambient criteria promulgated in the rule are applied in NPDES permits as effluent limitation control only if the uncontrolled discharge of a particular pollutant has a "reasonable potential" to exceed applicable water quality criteria. EPA defines

"reasonable potential" in its regulations as where a discharge is projected or calculated to cause an excursion above a water quality standard based on a number of factors including, as a minimum, the four factors listed in 40 CFR 122.44(d)(1)(ii). Absent that determination, the criteria in and of themselves have no impact. Thus, EPA's promulgation of criteria for all water bodies in California that currently have no numeric criteria for toxic pollutants criteria for protecting the designated use ensures a safety net that does not impose any needless burden or costs on any dischargers. (EPA made this point in describing its guidance implementing section 303(c)(2)(B), 57 Fed. Reg. 60853 col. 1 (Dec. 22, 1992)). If EPA were to interpret section 303(c)(2)(B) to compel it to prove conclusively that all of the priority pollutants are present in all California waters, this would impose a huge resource burden on EPA with no substantive benefit in terms of environmental protection. In fact, if EPA were not to have perfect information upon which to base a determination that current discharges are impairing designated uses, EPA might overlook a waterbody that needs criteria as a basis for controlling discharges. In essence, establishment of these ambient criteria is necessary to establish the benchmark against which the permit authority can make the reasonable potential determination. The commenter's argument that EPA needs to do a more site specific evaluation of whether the discharge of the pollutant "could reasonably interfere" ignores that criteria are not only used to remediate where there is impairment but to prevent it from happening in the first place.

The comment further criticizes EPA's interpretation of the statutory language calling for the states to act within three years of the Act (which was enacted in 1987) coupled with that language in CWA section 303(c)(4) stating that EPA is to act "promptly" does not support EPA's approach to cover all waterbodies. EPA, however, believes that the time frames envisioned by Congress, to put in place ambient criteria for toxic pollutants where EPA had issued recommend criteria under section 304(a) of the CWA for those pollutants, are reasonably considered when interpreting what Congress intended EPA to do. Congress, by linking section 303(c)(2)(B) to the triennial review period, gave states a chance to comply with section 303(c)(2)(B) on their own. To interpret the combination of subsections (c)(2)(B) and (c)(4) as requiring monitoring and analysis to demonstrate impairment before establishing ambient standards would be counter to Congress' goal of putting in place the ambient standards as the foundation for toxics control. Another reason EPA believes that its approach is appropriate is that section 303 establishes a regime whereby EPA's role is one of overseer of the national program, with states taking the primary role for standards. The State of California is better positioned to make local site-specific determinations than is EPA and EPA believes that it is more appropriate to issue state-wide criteria and then to allow the State if it so chooses to establish and submit for approval water quality standards that are based on site-specific considerations. Finally the reference in section 303(c)(2)(B) to section 304(a) criteria suggests that section 304(a) serve as "default" criteria, that once EPA had issued its national section 304(a) criteria recommendations, states were to adopt numeric criteria for those pollutants based on the 304(a) criteria, unless they had other scientifically defensible criteria. Here, California is the only state without such numeric criteria. EPA also notes that this rule follows the approach EPA took nationally in promulgating the National Toxics Rule for states that had failed to comply with CWA section 303(c)(2)(B). 57 Fed. Reg. (Dec. 22, 1992). EPA incorporates the rationale for EPA's action used in the NTR as expressed in the preamble into this final rule.

As the Supreme Court has stated, if a statute is silent or ambiguous on a specific question, a reviewing court must defer to any reasonable construction of that statute by the administering agency. *Chevron, U.S.A. v. NRDC*, 467 U.S. 837, 843 (1984). Under *Chevron*, a reviewing court must determine "whether the agency's answer [to the ambiguous question] is based on a permissible construction of the statute." *Id.* The agency's construction need not be the one the court itself would adopt or the one the court feels would best implement congressional policy. It need only be a reasonable construction of the statutory question at issue. *Id.* At 844-45. Here, to recognize Congress' desire for timely establishment of numeric criteria for toxics and recognizing that these criteria do not have a regulatory impact unless

reasonable potential for exceeding the criteria is found in a permit-specific context, EPA believes that its approach to implementing section 303(c)(2)(B) is a reasonable construction of the statute.

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Comment ID: CTR-038-006a  
Comment Author: Sonoma County Water Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-21 Legal Concerns  
References:  
Attachments? Y  
CROSS REFERENCES E-01c; R; S

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Comment: 5. The proposed rule is inconsistent with applicable Federal law and regulations. In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. The Clean Water Act requires that water quality standards be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, and recreational purposes (see CWA section 303(c)(2)(A)). Consistent with this, EPA regulations require that water quality standards be based on identification of "specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern..." For those identified waters, "states must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use" (See 40 CFR 131.11(a)(2)). Clearly the intent of both the Clean Water Act and EPA regulations is that water quality standards be tailored to the characteristics of the waters in question. In failing to properly evaluate the rule's economic impacts and in failing to adequately consider regulatory alternatives, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act. Moreover, in failing to properly consider the impacts on small entities, such as the District and the small communities it serves, the rule is inconsistent with the Regulatory Flexibility Act.

Response to: CTR-038-006a

EPA disagrees with the comment. See responses to CTR-035-012a and CTR-036-005. For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act and the Regulatory Flexibility Act, see the preamble to the final rule.

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Comment ID: CTR-040-011  
Comment Author: County of Sacramento Water Div  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-21 Legal Concerns  
References: Letter CTR-040 incorporates by reference letter CTR-027  
Attachments? Y  
CROSS REFERENCES

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Comment: MAJOR CONCERNS

We do, however, have fundamental concerns with the Rule as it is presently proposed and its supporting economic analysis. We believe the Rule can be modified in a manner that will be responsive to our concerns while at the same time being consistent with applicable Federal law and regulations. Our major concerns are presented here and are followed by our recommended modifications.

III. Concern: The proposed Rule violates applicable Federal law and regulations

\* In proposing a single set of criteria for all fresh waters, the Rule is inconsistent with the CWA and EPA's water quality standard regulations because it has not been determined that these criteria are necessary to avoid interference with designated uses (See Attachment B). The CWA requires that standards be established taking into consideration their use and value, and EPA regulations require consideration of specific water bodies where toxics may be adversely affecting water quality or uses.

Response to: CTR-040-011

EPA disagrees with the comment. See responses to CTR-035-012a and CTR-036-005.

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Comment ID: CTR-040-016b

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-21 Legal Concerns

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES C-24d

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Comment: RECOMMENDED MODIFICATIONS

To address our concerns, we recommend the following modifications which do not undermine the toxic pollutant control actions envisioned in EPA's economic analysis (e.g., BMPs for stormwater and source control). In fact, some of these recommendations would provide incentives for greater movement toward achieving the water quality criteria than would occur under the Rule as it is currently proposed.

III. Recommendation: Adopt separate, scientifically defensible, reasonably achievable aquatic life criteria for effluent-dominated/effluent-dependent streams.

Available discharge data for effluent-dominated streams in Sacramento indicate that a number of the proposed criteria are not presently being achieved and cannot be achieved with implementation of BMPs or other reasonable controls (See Attachment A). This is also true for many municipal stormwater programs in California.

\* The application of the proposed statewide criteria to effluent-dominated waters would force the Sacramento Stormwater Management Program, and other stormwater programs, to remove these discharges, essentially drying up the waters for most of the year. The costs would be significant and the

benefits assessed in EPA's economic analysis (enhanced fishing, passive benefits, and reduced cancer risk) would be zero. The removal of these discharges would likely be detrimental rather than beneficial. The effluent-dependent aquatic and riparian habitat, which previously supported aquatic life and wildlife, would no longer exist.

\* Effluent-dominated and effluent-dependent water bodies, which are common in California, require separate and distinct water quality criteria. Such a move is common sense and would be in accordance with the spirit (if not the letter) of Presidential Executive Order 12866 and the Unfunded Mandates Reform Act.

\* Additionally, the CWA requires that water quality standards be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and also taking into consideration their use and value for navigation (See CWA section 303(c)(2)(A)). Consistent with this statutory mandate, EPA regulations require that water quality standards be based on identification of specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use, or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use. Clearly the intent of both the CWA and EPA regulations is that water quality standards be tailored to the characteristics of the waters in question, rather than based on the "one-size-fits-all" approach used in the proposed Rule. This is not the cumbersome task suggested by the Preamble, at least with respect to developing criteria appropriate for effluent-dependent waters. But, even if it were a cumbersome task, the difficulty of complying with the law is not an excuse for noncompliance.

\* EPA could fulfill its obligation under the CWA and EPA regulations with respect to effluent-dominated waters simply by proposing criteria for these waters that are generally achievable by present stormwater discharges. Then, using the more stringent statewide criteria as a tracer, control measures and BMPs could be implemented to reduce the discharge of problematic pollutants to the MEP.

Response to: CTR-040-016b

EPA disagrees with this comment. Adoption of aquatic life criteria for effluent-dominated and effluent-dependent waters, based on local information and data, is beyond the scope of the CTR. EPA supports State adoption of such site-specific criteria, however, and intends to stay the CTR after approving any such State-adopted criteria (see response to CTR-003-006, et al.), but EPA cannot undertake to adopt such criteria itself. Even if EPA were to include site-specific criteria in the CTR, such criteria could not be based on considerations as to whether or not they were "reasonably achievable" by dischargers, as proposed in this comment. Water quality criteria must be based on sound scientific rationale and must protect designated uses. Their attainability is not a basis for selecting appropriate criteria. 40 CFR 131.11(a).

The costs (reasonableness) of attainability, which cannot justify adopting criteria that do not protect uses already designated, may be taken into consideration in the designation or modification of uses for individual waterbodies. 40 CFR 131.10. For this reason, EPA believes that this commenter's concerns are misplaced. The suggestion that EPA adopt "separate and distinct water quality criteria" for effluent-dominated and effluent-dependent waters, "tailored to the characteristics of the waters in question," and "reasonably achievable" by dischargers, could be best addressed, initially, through adoption or modification of designated uses. This is also beyond the scope of the CTR, the purpose of which is to adopt numeric toxic pollutant criteria for those waters in California, with designated uses already in place, where there are currently no criteria for these pollutants in effect. The CTR does not

undertake to designate any uses for waters in California or modify any uses already designated by the State.

Also, See responses to CTR-035-012a and CTR-036-005. For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act and the Regulatory Flexibility Act, see the preamble to the final rule.

See also response to CTR-040-016a.

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Comment ID: CTR-041-014

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-21 Legal Concerns

References:

Attachments? N

CROSS REFERENCES

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Comment: 1. The California Toxics Rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations.

a. EPA Failed to Adopt Criteria on a Case-by-Case, Pollutant-by-Pollutant Basis.

Section 303 of the Clean Water Act (CWA) requires that whenever a State adopts water quality standards, it "shall adopt criteria for all toxic pollutants listed pursuant to section 1317(a)(1) of this title for which criteria have been published under section 1314(a) of this title, the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." 33 U.S.C. section 1313(c)(2)(B). In other words, criteria only need to be developed where there is a "discharge or presence" of toxic pollutants in the affected waters, which could reasonably be expected to interfere with those designated uses" adopted by the State.(\*1) Thus, a water body and pollutant specific determination must be made before criteria are adopted as part of a water quality standard.

In its Preamble to the CTR, EPA stated that:

EPA does not believe that it is necessary to support the criteria proposed today on a pollutant specific, water body-by-water-body basis. For EPA to undertake an effort to conduct research and studies of each stream segment or water body across the State of California to demonstrate that for each toxic pollutant for which EPA has issued CWA 304(a) criteria guidance there is a "discharge or presence" of that pollutant which could reasonably "be expected to interfere with" the designated use would impose an enormous administrative burden and would be contrary to the statutory directive for swift action manifested by the 1987 addition of section 303(c)(2)(B) of the CWA. 62 Fed. Reg. 42166.

...Thus, to interpret CWA section 303(c)(2)(B) and (c)(4) to require such a cumbersome pollutant specific effort on each stream segment would essentially render section 303(c)(2)(B) meaningless. The provision and its legislative background indicate that the Administrator's determination to invoke her

303(c)(4)(B) authority can be met by a generic finding of inaction by the State without the need to develop pollutant specific data for individual stream segments.

This determination is supported by information in the rulemaking record showing the discharge or presence of priority toxic pollutants throughout the State. While this data is not necessarily complete, it constitutes a strong record supporting the need for numeric criteria for priority toxic pollutants with section 304(a) criteria guidance where the State does not have numeric criteria. 62 Fed. Reg. 42167.

Thus, EPA basically states that it is not necessary for it to make the statutorily-required findings of "discharge or presence" or reasonable expectation of interference with designated uses because it would be a great administrative burden and because swift action is required.

EPA supports its contention that swift action is required by citing the statutory framework and purpose of section 303, and the CWA's legislative history. "In adding section 303(c)(2)(B) to the CWA, Congress understood the existing requirements in section 303(c)(1) for triennial water quality standards review and submissions and in section 303(c)(4)(B) for promulgation. CWA section 303(c) includes numerous deadlines and section 303(c)(4) directs the Administrator to 'act promptly' where the Administrator determines that a revised or new standard is necessary to meet the requirements of the Act. Congress, by linking section 303(c)(2)(B) to the section 303(c)(1) three-year review period, gave States a last chance to correct this deficiency on their own. The legislative history of the provision demonstrates that chief Senate sponsors, including Senators Stafford, Chaffee and others wanted the provision to eliminate State and EPA delays and force quick action." 62 Fed. Reg. 42,167. Thus, EPA rests its entire argument regarding the need for swift action on the existence of the word "promptly" in the section of the statute related to the Administrator's duty to promulgate standards in the absence of approved State standards. It is unclear how EPA can argue that it has acted "promptly" thus far to adopt these new standards since it has been over three years since the State standards were overturned. Arguably, the additional extra time it would have taken to make the statutorily required findings would not have been substantial, and would probably result in less impact on dischargers.

EPA's other argument that such a "cumbersome pollutant specific effort on each stream segment" would "impose an enormous administrative burden" is not compelling. States, in their adoption of water quality standards, must perform this "cumbersome pollutant specific effort on each stream segment" under the express terms of section 303 (c)(2)(B). Therefore, it logically follows that EPA, in promulgating the standards for California, stands in the State's shoes and should be subject to the same requirements imposed upon the State. (\*2) Furthermore, EPA's reasoning that it is not required to do something merely because it is "cumbersome" may be subject to a legal challenge that such a determination is "arbitrary and capricious" under the Administrative Procedures Act (5 U.S.C. section 701 et seq.).

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(\*1) See also 40 C.F.R. part 131.11 (a)(2) ("States must review water quality data and information on discharges to identify specific water bodies where toxic pollutants may be, adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use.")

(\*2) See accord 40 C.F.R. 131.24(c) regarding EPA promulgation of water quality standards ("In promulgating water quality standards, the Administrator is subject to the same policies, procedures, analyses, and public participation requirement established for States. . .").

EPA disagrees with the comment. See responses to CTR-035-012a and CTR-036-005.

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Comment ID: CTR-042-007a  
Comment Author: Cal. Dept. of Transportation  
SDocument Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-21 Legal Concerns  
References:  
Attachments? Y  
CROSS REFERENCES E-01c; S

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Comment: 7. The CTR may violate the Administrative Procedures Act, the and Executive Order (E.O.) Unfunded Mandates Reform Act No. 12866.

In the Preamble to the CTR, EPA repeatedly claims that the CTR will not result in expenditures of more than \$100 million per year and, therefore, the statutory requirements of the UMRA and E.O. 12866 are not triggered.(\*1) Caltrans' annual costs alone and only in Los Angeles will exceed the \$100 million annual figure, even assuming the lowest level of treatment. Therefore, EPA's cost assumptions are challengeable as being arbitrary and capricious and in violation of the Administrative Procedures Act.(\*2)

Request: Caltrans requests that EPA reconsider its cost estimates based on the comments received during the public comment period.

Caltrans would like to thank EPA for the opportunity to provide comments on this proposed regulation. It is hoped that EPA will consider and address Caltrans' comments in the final version of the CTR. Should you have any questions concerning our comments on the CTR, please feel free to address these questions to Marcia Arrant at (916) 657-5381.

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(\*1) See CTR, 62 Fed. Reg. at 42,188, and at 42,191 ("EPA has determined that this rule does not contain a federal mandate that may result in expenditures by State, local and tribal governments, in the aggregate, or by the private sector, of \$100 million or more in any one year.")

(\*2) See American Iron and Steel Institute v. EPA, 1997 WL 297251 (D.C. Cir., 1497)(the court found that EPA had arbitrarily failed to adequately address cost-justification for its elimination of mixing zones. EPA had estimated the total cost of elimination mixing zones for bioaccumulative chemicals of concern (BCCS) from all dischargers to the Great Lakes at \$200,000, without even acknowledging a comment estimating the cost to one town for removal of mercury from its sewage discharge would be approximately \$300,000).

Response to: CTR-042-007a

For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, see the preamble to the final rule, and EPA's economic analysis for the final rule. For an evaluation of Caltrans' analysis of costs associated with storm water discharges, see response to CTR-040-004 (Category J; Stormwater Economics).

The commenter cited the decision reviewing EPA's Great Lakes' Initiative with respect to eliminating mixing zones for bioaccumulative pollutants of concern. EPA views this decision as remanding the matter to the agency for a failure to respond adequately to a comment as required under the Administrative Procedure Act. The decision did not address or reverse EPA's longstanding interpretation of the CWA that its ambient based water quality criteria must be set at levels necessary to protect the designated use (either aquatic life or human health, or both). The elimination of the mixing zone in the GLI was not a water quality criterion. It was a specific requirement that would have imposed criteria as end-of-pipe effluent limitations for bioaccumulative pollutants where feasible. EPA's current regulations at 40 CFR.131.11 state that criteria must be based on sound scientific rationale and must containsufficient parameters to protect the designated use. Further, such criteria shall be based on EPA's section 304(a) criteria recommendations, EPA's 304(a) criteria recommendations modified to reflect site-specific conditions, or other scientifically defensible methods. From the outset of the water quality standards program, EPA has explained that while economic factors may be considered in designating uses, scientific and technical factors must justify criteria to meet those uses. 44 Fed. Reg. 25,223, -24, 25 (April 30, 1979). When criteria cannot be attained due to economic factors, the state may consider whether a change or "downgrade" the use designation for the waterbody would be appropriate. Id. at 25,224. See, e.g., *Mississippi Comm. on Natural Resources v. Costle*, 625 F.2d 1269, 1277 (5th Cir. 1980), where the Court addressed whether EPA's action disapproving the state's water quality criterion for dissolved oxygen was arbitrary and capricious because EPA failed to consider economic factors. In affirming EPA's disapproval, the Court stated that

Nevertheless, we are convinced that EPA's construction is correct. See *E.I. du Pont de Nemours & Co. v. Train*, 430 U.S. 112, at 134-35. Congress itself separated use and criteria and stated that 'the water quality criteria for such waters [shall be] based on such uses. 33 U.S.C. Section 1313(c)(2)(1976). The statute requires EPA to develop criteria 'reflecting the latest scientific knowledge.'" Id. Section 1314(a)(1)(emphasis added). "The interpretation that criteria were based exclusively on scientific data predates the 1972 amendments. Water Quality Criteria vii (1968). Furthermore, when Congress wanted economics to be considered, it explicitly required it. See Sections 1311(b)(2)(A), 1312(b), 1314(b)(1976).

EPA reiterated this interpretation of the CWA and its implementing regulations in discussing section 304(a) recommended criteria guidance stating that they "are based solely on data and scientific judgments on the relationship between pollutant concentrations and environmental and human health effects" and "do not reflect consideration of economic impacts or the technological feasibility of meeting the chemical concentrations in ambient water." 63 FR 36,742, 36,762 col. 3 (July 7, 1998).

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Comment ID: CTR-043-005a  
Comment Author: City of Vacaville  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-21 Legal Concerns  
References:  
Attachments? Y  
CROSS REFERENCES E-01c; R; S

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Comment: 5. The proposed rule is inconsistent with applicable Federal law and regulations.

In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. The Clean Water Act requires that water quality standards be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes (see CWA section 303(c)(2)(A)). Consistent with this, EPA regulations require that water quality standards be based on identification of "specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern..." For those identified waters,"states must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use"(See 40 CFR 131.1 I (a)(2)). Clearly the intent of both the Act and EPA regulations is that water quality standards be tailored to the characteristics of the waters in question. In failing to properly evaluate the rule's economic impacts and in failing to adequately consider regulatory alternatives, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act. Moreover, in failing to properly consider the impacts on small entities, the rule is inconsistent with the Regulatory Flexibility Act.

Response to: CTR-043-005a

See responses to CTR-035-012a and CTR-036-005. For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, see the preamble to the final rule, and EPA's economic analysis for the final rule.

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Comment ID: CTR-044-006a  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-21 Legal Concerns  
References:  
Attachments? Y  
CROSS REFERENCES E-01c; R; S

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Comment: We have reviewed the proposed CTR and offer the following comments:

5. The proposed rule is inconsistent with applicable Federal law and regulations.

In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. The Clean Water Act requires that water quality standards be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes (see CWA section 303(c)(2)(A)). Consistent with this, EPA regulations require that water quality standards be based on identification of "specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern..." For those identified waters, "states must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use"(See 40 CFR 131.11 (a)(2)) (see Exhibit G). Clearly the intent of both the Act and EPA regulations is that water quality standards be tailored to the characteristics of the waters in question. In

failing to properly evaluate the rule's economic impacts and in failing to adequately consider regulatory alternatives, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act (Id.). Moreover, in failing to properly consider the impacts on small entities, such as the City, the rule is inconsistent with the Regulatory Flexibility Act (Id.).

Response to: CTR-044-006a

See responses to CTR-035-012a and CTR-036-005. For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, see the preamble to the final rule.

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Comment ID: CTR-044-044

Comment Author: City of Woodland

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-21 Legal Concerns

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

**CROSS REFERENCES**

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Comment: LEGAL ANALYSIS OF THE PROPOSED CALIFORNIA TOXICS RULE

1. The California Toxics Rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations.

a. EPA Failed to Adopt Criteria on a Case-by-Case, Pollutant-by-Pollutant Basis.

Section 303 of the Clean Water Act (CWA) requires that whenever a State adopts water quality standards, it "shall adopt criteria for all toxic pollutants listed pursuant to section 1317(a)(1) of this title for which criteria have been published under section 1314(a) of this title, the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." 33 U.S.C. section 1313(c)(2)(B). In other words, criteria only need to be developed where there is a "discharge or presence" of toxic pollutants in the affected waters, which could "reasonably be expected to interfere with those designated uses" adopted by the State.\*1) Thus, a water body and pollutant specific determination must be made before criteria are adopted as part of a water quality standard.

In its Preamble to the CTR, EPA stated that:

EPA does-not believe that it is necessary to support the criteria proposed today on a pollutant specific, water body-by-water-body basis. For EPA to undertake an effort to conduct research and studies of each stream segment or water body across the State of California to demonstrate that for each toxic pollutant for which EPA has issued CWA 304(a) criteria guidance there is a "discharge or presence" of that pollutant which could reasonably "be expected to interfere with" the designated use would impose an enormous administrative burden and would be contrary to the statutory directive for swift action manifested by the 1987 addition of section 303(c)(2)(B) of the CWA. 62 Fed. Reg. 42166.

Thus, to interpret CWA section 303(c)(2)(B) and (c)(4) to require such a cumbersome pollutant specific effort on each stream segment would essentially render section 303(c)(2)(B) meaningless. The provision and its legislative background indicate that the Administrator's determination to invoke her 303(c)(4)(B) authority can be met by a generic finding of inaction by the State without the need to develop pollutant specific data for individual stream segments. This determination is supported by information in the rulemaking record showing the discharge or presence of priority toxic pollutants throughout the State. While this data is not necessarily complete, it constitutes a strong record supporting the need for numeric criteria for priority toxic pollutants with section 304(a) criteria guidance where the State does not have numeric criteria. 62 Fed. Reg. 42167.

Thus, EPA basically states that it is not necessary for it to make the statutorily-required findings of "discharge or presence" or reasonable expectation of interference with designated uses because it would be a great administrative burden and because swift action is required.

EPA supports its contention that swift action is required by citing the statutory framework and purpose of section 303, and the CWA's legislative history. "In adding section 303(c)(2)(B) to the CWA, Congress understood the existing requirements in section 303(c)(1) for triennial water quality standards review and submissions and in section 303(c)(4)(B) for promulgation. CWA section 303(c) includes numerous deadlines and section 303(c)(4) directs the Administrator to act promptly where the Administrator determines that a revised or new standard is necessary to meet the requirements of the Act. Congress, by linking section 303(c)(2)(B) to the section 303(c)(1) three-year review period, gave States a last chance to correct this deficiency on their own. The legislative history of the provision demonstrates that chief Senate sponsors, including Senators Stafford, Chaffee and others wanted the provision to eliminate State and EPA delays and force quick action." 62 Fed. Reg. 42,167. Thus, EPA rests its entire argument regarding the need for swift action on the existence of the word "promptly" in the section of the statute related to the Administrator's duty to promulgate standards in the absence of approved State standards. It is unclear how EPA can argue that it has acted "promptly" thus far to adopt these new standards since it has been over three years since the State standards were overturned. Arguably, the additional extra time it would have taken to make the statutorily required findings would not have been substantial, and would probably result in less impact on dischargers.

EPA's other argument that such a "cumbersome pollutant specific effort on each stream segment" would "impose an enormous administrative burden" is not compelling. States, in their adoption of water quality standards, must perform this "cumbersome pollutant specific effort on each stream segment" under the express terms of section 303 (c)(2)(B). Therefore, it logically follows that EPA, in promulgating the standards for California, stands in the State's shoes and should be subject to the same requirements imposed upon the State. (\*2) Furthermore, EPA's reasoning that it is not required to do something merely because it is "cumbersome" may be subject to a legal challenge that such a determination is "arbitrary and capricious" under the Administrative Procedures Act (5 U.S.C. section 701 et seq.).

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(\*1) See also 40 C.F.R. section 131.11 (a)(2) ("States must review water quality data and information on discharges to identify specific water bodies where toxic pollutants may be, adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use.")

(\*2) See accord 40 C.F.R. 131.241(c) regarding EPA promulgation of water quality standards ("In promulgating water quality standards, the Administrator is subject to the same policies, procedures, analyses, and public participation requirement established for States. . .").

Response to: CTR-044-044

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Comment ID: CTR-050-001

Comment Author: Sonnenschein Nath & Rosenthal

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org: American Petrol

Document Date: 09/26/97

Subject Matter Code: C-21 Legal Concerns

References:

Attachments? N

**CROSS REFERENCES**

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Comment: On behalf of the American Petroleum Institute (API), we are submitting the following comments on U.S. EPA's proposal to establish water quality criteria for toxic pollutants for the State of California (62 Fed. Reg. at 42160, Aug. 5, 1997). API is a national trade association representing 300 companies with operations in all facets of the petroleum industry

(exploration, production, refining, and marketing. API has member companies in California as well as member companies in the Midwestern states currently implementing the Great Lakes Initiative. API member companies have experience with many of aspects of the proposed rule which are quite similar to the Great Lakes Initiative.

Many of API's members own and operate facilities in the State of California that discharge wastewater pursuant to NPDES permits. Those facilities will likely be issued new permit limits based on the criteria set forth in the EPA rule, once that rule is issued in final form. Therefore, API has a strong interest in the EPA proposal. Based on its review, API believes that the proposal has substantial legal flaws. Those flaws are described below.

1. EPA is Not Authorized to Impose the Proposed Criteria on a State-wide Basis.

EPA has proposed to impose the new criteria on all-waters in the State of California. EPA claims that it has the authority to impose state-wide criteria because the State's water quality control plans, which contain water quality criteria, have been invalidated by a court. Therefore, according to EPA, the State has not met its obligations under section 303(c)(2)(B) of the Clean Water Act, which requires the State to issue water quality criteria for toxics, "the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." Because the State has not taken that action, EPA claims that it must promulgate standards for the State, under section 303(c)(4)(B) of the Act, which requires EPA to act when it determines that "a revised or new standard is necessary to meet the requirements of the Act." (62 Fed. Reg. at 42165).

EPA's position that it may impose state-wide criteria is squarely inconsistent with the plain language and intent of the Clean Water Act. First, Section 303(c)(2)(b) requires that the state must establish criteria for toxics, the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the state as necessary to support such designated uses by requiring that criteria be established for certain toxics, i.e., those which interfere with the designated uses of specified waters, i.e., affected waters, it is clear that Congress intended that criteria be set on a

pollutant specific and stream-specific basis, not according to state geographic boundaries. Uses are designated for particular water bodies. Thus, EPA's position that it need not make any specific findings at all nullifies the clear statutory language of section 303(c)(2)(b) and violates a cardinal principle of statutory construction that each and every word of a provision be given effect.

Response to: CTR-050-001

See responses to CTR-035-012a and CTR-036-005. Further, EPA's interpretation does give effect to each word in CWA section 303(c)(2)(B) because the phrase "discharge or presence of which in the affected waters could reasonably be expect to interfere with those designated uses adopted by the State, as necessary to support such designated uses" reasonably could be interpreted to mean that if the pollutant were discharged, it could interfere with the designated uses. As explained in the above cited comment responses, this is a reasonable interpretation of the CWA given the time frames set forth by Congress and given the practical reality that no water quality based effluent limit must be included in a particular permit unless the State makes a "reasonable potential" determination for a given discharge.

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Comment ID: CTR-050-002

Comment Author: Sonnenschein Nath & Rosenthal

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org: American Petrol

Document Date: 09/26/97

Subject Matter Code: C-21 Legal Concerns

References:

Attachments? N

**CROSS REFERENCES**

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Comment: On behalf of the American Petroleum Institute (API), we are submitting the following comments on U.S. EPA's proposal to establish water quality criteria for toxic pollutants for the State of California (62 Fed. Reg. at 42160, Aug. 5, 1997). API is a national trade association representing 300 companies with operations in all facets of the petroleum industry

(exploration, production, refining, and marketing. API has member companies in California as well as member companies in the Midwestern states currently implementing the Great Lakes Initiative. API member companies have experience with many of aspects of the proposed rule which are quite similar to the Great Lakes Initiative.

Many of API's members own and operate facilities in the State of California that discharge wastewater pursuant to NPDES permits. Those facilities will likely be issued new permit limits based on the criteria set forth in the EPA rule, once that rule is issued in final form. Therefore, API has a strong interest in the EPA proposal. Based on its review, API believes that the proposal has substantial legal flaws. Those flaws are described below.

Second, EPA concedes that it has not made the factual findings to support state-wide application of the proposed standards, i.e., that a particular standard for a particular pollutant on a particular stream is "necessary to meet the requirements of the Act." (62 Fed. Reg. at 42166-42167) In fact, EPA states that its data concerning "discharge or presence" of toxics is "not necessarily complete." (62 Fed. Reg. at 42167) Perhaps, it is this acknowledged lack of supporting data that compels EPA to ignore the language

of section 303(c)(2)(b), which so plainly contradicts the concept of a state-wide applicability of toxic criteria.

Response to: CTR-050-002

See responses to CTR-035-012a and CTR-036-005.

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Comment ID: CTR-050-003

Comment Author: Sonnenschein Nath & Rosenthal

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org: American Petrol

Document Date: 09/26/97

Subject Matter Code: C-21 Legal Concerns

References:

Attachments? N

**CROSS REFERENCES**

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Comment: On behalf of the American Petroleum Institute (API), we are submitting the following comments on U.S. EPA's proposal to establish water quality criteria for toxic pollutants for the State of California (62 Fed. Reg. at 42160, Aug. 5, 1997). API is a national trade association representing 300 companies with operations in all facets of the petroleum industry

(exploration, production, refining, and marketing. API has member companies in California as well as member companies in the Midwestern states currently implementing the Great Lakes Initiative. API member companies have experience with many of aspects of the proposed rule which are quite similar to the Great Lakes Initiative.

Many of API's members own and operate facilities in the State of California that discharge wastewater pursuant to NPDES permits. Those facilities will likely be issued new permit limits based on the criteria set forth in the EPA rule, once that rule is issued in final form. Therefore, API has a strong interest in the EPA proposal. Based on its review, API believes that the proposal has substantial legal flaws. Those flaws are described below.

Third, EPA's claim that it does not have to make pollutant and stream-specific determinations because Congress wanted it to take "quick action" (62 Fed. Reg. at 42167), is not supported by the pertinent statutory provisions which contain no deadlines at all. Section 303(c)(4)(B) merely directs the Agency to act to promptly" and has no explicit connection to section 303(c)(2)(B), which contains the State's obligations to issue criteria for toxicities.

If Congress had wanted to establish a connection between the two statutory provisions, and authorize EPA to take "quick action" to issue state-wide criteria if the State has not acted, Congress could easily have inserted appropriate language in either section 303(c)(2)(B), section 303(c)(4)(B), or both. Congress did not insert such language. Thus, Congress did not authorize the Agency to make an "end run" around the explicit provisions of the statute by issuing state-wide criteria without stream-specific or pollutant-specific findings that such criteria are necessary.

Response to: CTR-050-003

See responses to CTR-035-012a and CTR-036-005.

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Comment ID: CTR-050-004

Comment Author: Sonnenschein Nath & Rosenthal

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org: American Petrol

Document Date: 09/26/97

Subject Matter Code: C-21 Legal Concerns

References:

Attachments? N

**CROSS REFERENCES**

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Comment: On behalf of the American Petroleum Institute (API), we are submitting the following comments on U.S. EPA's proposal to establish water quality criteria for toxic pollutants for the State of California (62 Fed. Reg. at 42160, Aug. 5, 1997). API is a national trade association representing 300 companies with operations in all facets of the petroleum industry

(exploration, production, refining, and marketing. API has member companies in California as well as member companies in the Midwestern states currently implementing the Great Lakes Initiative. API member companies have experience with many of aspects of the proposed rule which are quite similar to the Great Lakes Initiative.

Many of API's members own and operate facilities in the State of California that discharge wastewater pursuant to NPDES permits. Those facilities will likely be issued new permit limits based on the criteria set forth in the EPA rule, once that rule is issued in final form. Therefore, API has a strong interest in the EPA proposal. Based on its review, API believes that the proposal has substantial legal flaws. Those flaws are described below.

Finally, EPA imposition of state-wide standards is not "necessary to meet the requirements of the Act," as required by Section 303(c)(4)(B). In discussing the potential economic impacts of the proposal, EPA points out that if it did not issue a rule, the State could use its narrative water quality criteria to impose permit limits for toxicities. (62 Fed. Reg. at 42187) EPA fails to recognize that if the state were allowed to use its criteria in this manner, there would be no need for EPA to usurp state authority and federally impose statewide criteria.

For the reasons cited above, EPA's action to propose toxic criteria in the State of California is without legal authority and should be withdrawn.

Response to: CTR-050-004

See responses to CTR-035-012a and CTR-036-005. EPA is promulgating numeric criteria here even though the state could use its narrative to develop water quality based effluent limits in order to meet the requirements of CWA section 303(c)(2)(B). Section 303(c)(2)(B) of the CWA was enacted in 1987 in response to Congress' impatience with the progress in implementation of water quality controls for toxic pollutants for which EPA has national section 304(a) recommended criteria guidance. In enacting section 303(c)(2)(B), Congress required states to adopt numeric criteria. In light of California's failure to have such criteria, EPA's promulgation is implementing Congressional intent.

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Comment ID: CTR-050-007a  
Comment Author: Sonnenschein Nath & Rosenthal  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org: American Petrol  
Document Date: 09/26/97  
Subject Matter Code: C-21 Legal Concerns  
References:  
Attachments? N  
CROSS REFERENCES E-01c; R; S

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Comment: IV. EPA Has Not Complied With Applicable Regulatory Review Requirements. There are several significant statutes and executive orders that require EPA to undertake analyses of the costs and benefits of its regulations, and to submit the regulations and analyses to other governmental bodies, including the Office of Management and Budget (OMB) and Congress. Those authorities include the Regulatory Flexibility Act, the Small Business Regulatory Enforcement and Fairness Act (SBREFA), the Unfunded Mandates Reform Act, the Congressional Review Act, and Executive Order 12866 (Regulatory Planning and Review). EPA apparently believes that it does not need to comply with any of those requirements for this rulemaking. (62 Fed. Reg. at 42188-42191). API believes that EPA is required to meet those obligations for the proposed criteria, and that the Agency's rationale for avoiding this responsibility has no legal basis.

EPA supports its decision not to comply with the regulatory review statutes by stating that the proposed criteria "by themselves, do not directly impose economic impacts." (62 Fed. Reg. at 42188). EPA admits that when those criteria are combined with the designated uses that have been adopted by the State, and implemented in permit limits, "there may be a cost to some dischargers." (62 Fed. Reg. at 42188) could be substantial; the Agency itself estimates that the compliance cost could be between \$15 and \$87 million per year.(62 Fed. Reg. at 42189). (That does not include indirect costs to the economy, which would surely put this rule above the \$100 million impact threshold specified in several of the regulatory review statutes listed above.) EPA cannot ignore those costs by creating its own interpretation of those statutes in which only "direct" impacts need be considered. There is no support in the statutory language or legislative history for such a reading, and EPA has cited no such support in its Federal Register notice.

There is another problem with EPA's rationale for avoiding regulatory review: if EPA were right that "indirect" impacts do not trigger those reviews, the impacts of this rulemaking are not really "indirect." Those impacts emerge clearly once the proposed criteria are combined with the State's designated uses. Those designations have already been established, so there is nothing uncertain or indefinite about that aspect of the water quality standards. Then, once the standards are completed, the State must implement those standards through permit limits. While there are some decisions that the State must make in determining the proper permit limits, which can influence the size of the compliance costs, EPA can readily determine a range of possible costs. In fact, the Agency has already done so, resulting in the \$15 - \$87 million cost range discussed above. While those costs may not be fixed with certainty, they are certainly "direct economic impacts". Therefore, even if the Agency were correct in looking at only "direct" impacts, this rulemaking poses such impacts, and EPA must comply with the statutory requirements to conduct and submit cost and benefit analyses of its proposed criteria.

## V. CONCLUSION

As explained above, EPA's proposal to issue water quality criteria for toxicities in the State of California suffers from serious legal flaws. API urges the Agency to reconsider its intended course of action in light of the issues raised in these and other public comments. If you have any questions regarding these comments, or would like any additional information, please call Theresa Pugh at 202/682-8036.

Response to: CTR-050-007a

EPA disagrees with the comment. EPA has explained its compliance with E.O. 12866, the Regulatory Flexibility Act (as amended), and the Unfunded Mandates Reform Act in the preamble to the final rule.

With respect to the Regulatory Flexibility Act (RFA), and as stated in the preamble to the proposed and final rules, the RFA requires agencies to assess the economic impact of a rule only on small entities that are subject to the requirements of the rule. Today's rule does not impose any impacts on small entities.

The Regulatory Flexibility Act generally requires federal agencies to prepare a regulatory flexibility analysis (RFA) that describes the impact of a rule on small entities (small businesses, small organizations and small governmental jurisdictions) whenever an agency promulgates a final rule under section 553 of the Administrative Procedure Act, 5 U.S.C. Section 553. 5 U.S.C. Section 604. Under section 605(b) of the Regulatory Flexibility Act, however, if the head of an agency certifies that a rule will not have a significant economic impact on a substantial number of small entities, the statute does not require the agency to prepare an RFA. Pursuant to section 605(b), the Administrator is today certifying that this rule will not have a significant economic impact on a substantial number of small entities for the reasons explained below. Consequently, EPA has not prepared an RFA.

The RFA requires analysis of the economic impact of a rule only on the small entities subject to the rules' requirements. See *United States Distribution Companies v. FERC*, 88 F.3d 1105, 1170 (D.C. Cir. 1996). ("[N]o [regulatory flexibility] analysis is necessary when an agency determines that the rule will not have a significant economic impact on a substantial number of small entities that are subject to the requirements of the rule," *United Distribution* at 1170, quoting *Mid-Tex Elec. Co-op v. FERC*, 773 F.2d 327, 342 (D.C. Cir. 1985) (emphasis added by United Distribution court).) Thus, the RFA requires that any regulatory flexibility analysis prepared for a final rule must include estimates of "the number of small entities to which a rule will apply." 5 U.S.C. Section 604(a)(3). The analysis must also include a description of the recordkeeping, reporting and compliance requirements of the rule, including an estimate of the classes of small entities "which will be subject to the requirements." 5 U.S.C. Section 604(a)(4). In light of these provisions, courts have consistently interpreted the RFA to impose no obligation on an agency to conduct a small entity impact analysis on entities it does not regulate. *Motor & Equip. Mfrs. Ass'n v. Nichols*, 142 F.3d 449, 467 & n.18 (D.C. Cir. 1998).

The U.S. Court of Appeals for the District of Columbia Circuit recently reaffirmed its conclusion that the RFA does not require an agency to prepare an assessment of the economic impact of a rule on small entities that are not directly affected by a rule. *American Trucking Association, Inc. v. U.S. Environmental Protection Agency*, (D.C. Cir. 1999). In that case, the court determined that EPA was not required to prepare a regulatory flexibility analysis of the economic impact of a rule on small entities when it promulgated air quality standards under the Clean Air Act. There, EPA had certified that the rule would not have a significant impact on small entities because the air standard did not directly impose requirements on small entities and consequently they were not subject to the rule. Under the Clean Air Act, states regulate small entities through state implementation plans that they are required to develop under the Act. States have broad discretion in determining how to achieve compliance with the standards and may choose to avoid imposing any of the burden of complying with the standards on small entities.

The CTR presents a situation very similar to that described in the American Trucking case. It establishes no requirements that are directly applicable to small entities, and so the agency is not required to conduct a regulatory flexibility analysis under the RFA. (See *United States Distribution Companies v. FERC*, 88 F.3d 1105, 1170 (D.C. Cir. 1996). The Agency is therefore certifying that today's rule will not have a significant economic impact on a substantial number of small entities, within the meaning of the RFA.

Under the CWA water quality standards program, states must adopt water quality standards for their waters that must be submitted to EPA for approval. If the Agency disapproves a state standard and the state does not adopt appropriate revisions to address EPA's disapproval, EPA must promulgate standards consistent with the statutory requirements. EPA has authority to promulgate criteria or standards in any case where the Administrator determines that a revised or new standard is necessary to meet the requirements of the Act. These state standards (or EPA-promulgated standards) are implemented through various water quality control programs including the National Pollutant Discharge Elimination System (NPDES) program that limits discharges to navigable waters except in compliance with an EPA permit or permit issued under an approved state program. The CWA requires that all NPDES permits must include any limits on discharges that are necessary to meet state water quality standards.

Thus, under the CWA, EPA's promulgation of water quality criteria or standards establishes standards that the state, in turn, implements through the NPDES permit process. The state has considerable discretion in deciding how to meet the water quality standards and in developing discharge limits as needed to meet the standards. In circumstances where there is more than one discharger to a water body that is subject to water quality standards or criteria, a state also has discretion in deciding on the appropriate limits for the different dischargers. While the state's implementation of federally-promulgated water quality criteria or standards may result indirectly in new or revised discharge limits for small entities, the criteria or standards themselves do not apply to any discharger, including small entities.

EPA recognizes that it has undertaken an economic analysis pursuant to E.O. 12866 for this rule. This analysis, however, makes numerous assumptions and does not necessarily predict how the state will implement the criteria. Thus, the economic analysis represents EPA's best estimate of the implementation costs of the rule given the broad flexibility the state has in implementing the criteria.

The CTR, as explained above, does not itself establish any requirements that are applicable to small entities. As a result of EPA's action here, the State of California will need to ensure that permits it issues comply with the water quality standards established by the criteria in today's rule. In so doing, the State will have a number of discretionary choices associated with permit writing. While California's implementation of today's rule may ultimately result in some new or revised permit conditions for some dischargers, including small entities, EPA's action today does not impose any of these as yet unknown requirements on small entities.

Although the statute does not require EPA to prepare a regulatory flexibility analysis when it promulgates water quality criteria which will establish water quality standards for California, EPA has prepared an assessment of potential economic impact. This evaluation focuses on State and local implementation procedures related to the NPDES permit program. This evaluation is included in a document entitled, *Implementation Analysis of Ambient Water Quality Criteria for Priority Toxic Pollutants in California* which is part of the administrative record for this rulemaking. This document looks at the many implementation procedures of the NPDES permit program that the State implements to control pollutants from point source discharges. The procedures discussed in the document include: methods to calculate water quality-based effluent limits; mixing zones; site-specific translators for

metals criteria; compliance schedules; effluent trading; water-effect ratios; variances; designated use reclassification; and site-specific criteria. Each of these implementation procedures may have an effect on how water quality standards, based on the criteria in today's rule, will impact NPDES permit holders. Many of these procedures will lessen impacts on regulated entities.

The document also looks at implementation procedures used in the pretreatment program to control pollutant discharges from dischargers that do not discharge directly but introduce pollutants to publicly owned treatment works (POTWs). These dischargers include retail, commercial, and small industrial facilities that discharge to publicly owned treatment works (POTWs). Local entities have significant flexibility to implement their pretreatment programs. These procedures include: methods to calculate local limits (allocation of pollutants); methods of pollution prevention for various specific sources; pretreatment pollutant trading; methods of low cost pollutant reductions; technical assistance to move toward or achieve zero-discharge; cost accounting to drive down levels of discharges; and a few of the regulatory relief options discussed in the direct discharger section, e.g., compliance schedules.

The discussion illustrates the significant amount of flexibility available to the State and local agencies when implementing the NPDES permit program and pretreatment program and emphasizes that appropriate use of the available implementation tools can greatly affect the impact to many direct and indirect dischargers.

EPA recognizes that it has undertaken an economic analysis pursuant to E.O. 12866 for this rule. This analysis, however, makes numerous assumptions and does not necessarily predict how the state will implement the criteria. Thus, the economic analysis represents EPA's best estimate of the costs of the rule given the broad flexibility the state has in implementing the criteria.

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Comment ID: CTR-052-021a  
Comment Author: East Bay Dischargers Authority  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-21 Legal Concerns  
References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054  
Attachments? Y  
CROSS REFERENCES E-01c; R; S

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Comment: C. RECOMMENDATIONS FOR MODIFICATIONS TO THE CTR AND EA

EPA should revise the proposed rule and economics analysis such that they are consistent with applicable Federal law and regulations. In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. In failing to properly evaluate the rule's economic impacts and in failing to adequately consider alternative criteria for San Francisco Bay Area waters, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act. In failing to properly consider the impacts on small entities, the rule is inconsistent with the Regulatory Flexibility Act. Specific citations for these inconsistencies are contained in comments from BADA and CASA/Tri-TAC.

Response to: CTR-052-021a

See responses to CTR-035-012a and CTR-036-005. EPA has explained its compliance with E.O. 12866, the Regulatory Flexibility Act (as amended), and the Unfunded mandates Reform Act in the preamble to the final rule.

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Comment ID: CTR-054-014  
Comment Author: Bay Area Dischargers Assoc.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-21 Legal Concerns  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: The proposed rule is inconsistent with applicable Federal law and regulations. In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations (see Attachment 4). In failing to properly evaluate the rule's economic impacts and in failing to adequately consider alternative criteria for San Francisco Bay Area waters, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act. In failing to properly consider the impacts on small entities (Id.), the rule is inconsistent with the Regulatory Flexibility Act (Id.).

Response to: CTR-054-014

See responses to CTR-035-012a and CTR-036-005. EPA has explained its compliance with E.O. 12866, the Regulatory Flexibility Act (as amended), and the Unfunded mandates Reform Act in the preamble to the final rule.

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Comment ID: CTR-054-048  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-21 Legal Concerns  
References: Letter CTR-040 incorporates by reference letter CTR-027  
Attachments? Y  
CROSS REFERENCES

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Comment: LEGAL ANALYSIS OF THE PROPOSED CALIFORNIA TOXICS RULE

1. The California Toxics Rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations.

a. EPA Failed to Adopt Criteria on a Case-by-Case, Pollutant-by-Pollutant Basis.

Section 303 of the Clean Water Act (CWA) requires that whenever a State adopts water quality standards, it "shall adopt criteria for all toxic pollutants listed pursuant to section 1317(a)(1) of this title for which criteria have been published under section 1314(a) of this title, the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." 33 U.S.C. section 1313(c)(2)(B). In other words, criteria only need to be developed where there is a "discharge or presence" of toxic pollutants in the affected waters, which could "reasonably be expected to interfere with those designated uses" adopted by the State.\*1) Thus, a water body and pollutant specific determination must be made before criteria are adopted as part of a water quality standard.

In its Preamble to the CTR, EPA stated that:

EPA does not believe that it is necessary to support the criteria proposed today on a pollutant specific, water body-by-water-body basis. For EPA to undertake an effort to conduct research and studies of each stream segment or water body across the State of California to demonstrate that for each toxic pollutant for which EPA has issued CWA 304(a) criteria guidance there is a "discharge or presence" of that pollutant which could reasonably "be expected to interfere with" the designated use would impose an enormous administrative burden and would be contrary to the statutory directive for swift action manifested by the 1987 addition of section 303(c)(2)(B) of the CWA. 62 Fed. Reg. 42166.

Thus, to interpret CWA section 303(c)(2)(B) and (c)(4) to require such a cumbersome pollutant specific effort on each stream segment would essentially render section 303(c)(2)(B) meaningless. The provision and its legislative background indicate that the Administrator's determination to invoke her 303(c)(4)(B) authority can be met by a generic finding of inaction by the State without the need to develop pollutant specific data for individual stream segments. This determination is supported by information in the rulemaking record showing the discharge or presence of priority toxic pollutants throughout the State. While this data is not necessarily complete, it constitutes a strong record supporting the need for numeric criteria for priority toxic pollutants with section 304(a) criteria guidance where the State does not have numeric criteria. 62 Fed. Reg. 42167.

Thus, EPA basically states that it is not necessary for it to make the statutorily-required findings of "discharge or presence" or reasonable expectation of interference with designated uses because it would be a great administrative burden and because swift action is required.

EPA supports its contention that swift action is required by citing the statutory framework and purpose of section 303, and the CWA's legislative history. "In adding section 303(c)(2)(B) to the CWA, Congress understood the existing requirements in section 303(c)(1) for triennial water quality standards review and submissions and in section 303(c)(4)(B) for promulgation. CWA section 303(c) includes numerous deadlines and section 303(c)(4) directs the Administrator to act promptly where the Administrator determines that a revised or new standard is necessary to meet the requirements of the Act. Congress, by linking section 303(c)(2)(B) to the section 303(c)(1) three-year review period, gave States a last chance to correct this deficiency on their own. The legislative history of the provision demonstrates that chief Senate sponsors, including Senators Stafford, Chaffee and others wanted the provision to eliminate State and EPA delays and force quick action." 62 Fed. Reg. 42,167. Thus, EPA rests its entire argument regarding the need for swift action on the existence of the word "promptly" in the section of the statute related to the Administrator's duty to promulgate standards in the absence of approved State standards. It is unclear how EPA can argue that it has acted "promptly" thus far to adopt these new standards since it has been over three years since the State standards were overturned. Arguably, the additional extra time it would have taken to make the statutorily required findings would not have been substantial, and would

probably result in less impact on dischargers.

EPA's other argument that such a "cumbersome pollutant specific effort on each stream segment" would "impose an enormous administrative burden" is not compelling. States, in their adoption of water quality standards, must perform this "cumbersome pollutant specific effort on each stream segment" under the express terms of section 303 (c)(2)(B). Therefore, it logically follows that EPA, in promulgating the standards for California, stands in the State's shoes and should be subject to the same requirements imposed upon the State. (\*2) Furthermore, EPA's reasoning that it is not required to do something merely because it is "cumbersome" may be subject to a legal challenge that such a determination is "arbitrary and capricious" under the Administrative Procedures Act (5 U.S.C. section 701 et seq.).

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(\*1) See also 40 C.F.R. section 131.11 (a)(2) ("States must review water quality data and information on discharges to identify specific water bodies where toxic pollutants may be, adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use.")

(\*2) See accord 40 C.F.R. 131.241(c) regarding EPA promulgation of water quality standards ("In promulgating water quality standards, the Administrator is subject to the same policies, procedures, analyses, and public participation requirement established for States. . .").

Response to: CTR-054-048

EPA disagrees with the comment. See responses to CTR-035-012a and CTR-036-005.

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Comment ID: CTR-055-002a  
Comment Author: USS-POSCO Industries  
Document Type: Specific Industry  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-21 Legal Concerns  
References:  
Attachments? Y  
CROSS REFERENCES T

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Comment: Waste Load Allocation (WLA) is a flawed concept and UPI requests the EPA promulgate conditions for exemption as part of the requirement for compliance with such allocations.

The implementation of CWA Section 303(c)(2)(B) as discussed beginning on page 42184 causes numerous obstacles, both financial and technological, to facilities such as UPI. Our facility will be subject to water quality-based effluent limitations (WQBELs). Therefore, total maximum daily loads (TMDL) and WLAs will be utilized as future discharge permit criteria.

State Task Force recommendations also recognize that the TMDL process can be significantly labor and data intensive. UPI concurs that the TMDL process is significantly labor and data intensive. During the five year period from 1989 through 1993 UPI spent close to a million dollars (\$1,000,000) on the studies of point source wasteload performance at its facility. The study was initiated to verify the efficacy of our

waste water treatment system in removing chemical process constituents that were added to the water from the river (Delta) during use of the water as process water. Chain-of-custody and laboratory results for this study were documented in our required monthly self monitoring reports to the RWQCB.

The above study of efficacy of wastewater treatment prior to discharge is summarized in the following attached tables which show averages for three month periods over five full years.

Table 9. Summary of Discharge 001 Gross Mass Loading, lb/day Table 10. Summary of Discharge 001 Net Mass Loading, lb/day Table 11. Summary of Discharge 001 Net Concentrations, ug/l

Each table is shown in two sections. Section A shows the tabulation of results for cadmium (Cd), total chromium (Cr, total), hexavalent chromium (CrE+6), copper (Cu), total iron (Fe, total), dissolved iron (Fe, dissolved), lead (Pb), nickel (Ni) and zinc (Zn). Section B shows the tabulation of results for arsenic (As), mercury (Hg), selenium (Se), silver (Ag), tin (Sn), cyanide, phenolics, polyaromatic hydrocarbons (PAHs), naphthalene, and tetrachloroethylene. All analyses were done using approved standard procedures to determine the total concentration of each chemical. All results that were reported at minimum detection level (MDL) are included in the averages at one half of the reported MDL.

The attached tables illustrate the following: The gross lb/day discharge loadings (Table 9) show certain trends of improvement, eg, CrE+6, for which the process sources had been controlled. Note that since completion of the study compliance samples for CrE+6 during the most recent two year period have been reported at less than MDL. Other decreases, such as shown for Cd, Hg and Pb, are the result of improved analytical test procedures.

The net discharge lb/day loadings (Table 10) and net discharge ug/l concentrations (Table 11) show many results that are at or below zero discharge for many constituents. Other net discharge ug/l concentrations are significantly below the applicable MDLs, which also indicates that the net concentration is essentially zero. This indicates that chemical control for most chemicals is essentially 100% complete and that no process constituents are contained in the permitted discharge, except as noted below.

Exceptions to the above are Cr, Sn, and phenolics for which the net results are significantly above zero.

The above study shows the substantial effort and expenditure that was required to verify performance with respect to chemicals of concern (COCs) for a specific source category (and for several additional chemicals that were added to the COC list). The list of COCs is being expanded to 126 in the proposed regulations, more than six times as large a list as was evaluated in our performance study.

While the use of the Waste Load Allocation (WLA) principle may sound good, it is only good if properly administered. Two criterion should be considered to make the use of WLAs practicable and administratively feasible for both the agencies and the dischargers.:

\* The COCs applicable to WLA discharge compliance should be identified by the Administrator for each source category, per Title 33, Section 1316(b)(1).

\* Each NPDES Permit Applicant shall analyze and report on chemical listed on the standard permit application every five years to verify which if any discharge chemicals are subject to WLA discharge compliances.

For the above reasons, UPI requests the EPA add the following to the end of Section 131.38(e)(1) of part

131 of Title 40:

"New and existing point source dischargers shall be considered to be in compliance with such WQBELs except for (i) any WQBEL constituent that is identified for the source category pursuant to Section 1316(b)(1) of Title 33, or (ii) any WQBEL constituent which may cause an increase in the receiving water due to such discharge as determined from information contained in the standard required permit application."

Response to: CTR-055-002a

EPA disagrees with this comment. See response to CTR-055-002b (Category T; State Implementation Policy).

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Comment ID: CTR-065-003b  
Comment Author: Environmental Health Coalition  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-21 Legal Concerns  
References:  
Attachments? N  
CROSS REFERENCES C-14

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Comment: HUMAN HEALTH CRITERIA

EHC is very concerned about the use of 6.5 grams per day of fish tissue as a basis upon which to derive human health criteria. This is not adequate to protect the many thousands of subsistence fishers of California coastal waters. We trust EPA is not in the business of protecting "most of the people, most of the time" as is the indicated goal for marine organisms elsewhere in the CTR (see comments below).

We refer you to a study conducted by the Save San Francisco Bay Association that concluded that fishers of San Francisco Bay consumed 81 grams per day in the week prior to the survey with consumption rates as high as 450 grams/day... This element of the CTR must be recalculated at a higher rate of consumption and with a healthy safety margin to accommodate for synergistic and cumulative effects. Further, the Save San Francisco study showed that heads and skin were frequently consumed, the health criteria must reflect these actual eating patterns and practices as well and reflect the cultural diversity of users of the Bays. Since many subsistence fishers are people of color, adoption of this rule could violate the President's Order on Environmental Justice by exposing these populations to increased and undue environmental health risks.

Response to: CTR-065-003b

See response to CTR-065-003a (Category C-14; Fish and Water Consumption).

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Comment ID: CTR-095-001c  
Comment Author: M. Ruth Uiswander

Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/02/97  
Subject Matter Code: C-21 Legal Concerns  
References:  
Attachments? N  
CROSS REFERENCES C-20; C-17a; C-14

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Comment: In regard to the numeric water quality standards criteria for California surface water, they have been revealed by environmental groups to be insufficiently protective and environmentally unjust. The proposed new rules assume fish ingestion of 6.5 grams per day. In reality, consumption of fish in some communities can be as high as 1 pound per day. This level of consumption is especially likely among subsistence fishers.

Please prevent toxic pollution in California's bays by making more protective standards that consider all toxic pollutants and consider the fish consumption habits of subsistence anglers.

Response to: CTR-095-001c

See responses to CTR-002-002a, CTR-002-005a, and CTR-058-001 (Subject Matter Code C-13, Risk Level).

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Comment ID: CTR-099-004  
Comment Author: Emil A. Lawton, Ph.D.  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/03/97  
Subject Matter Code: C-21 Legal Concerns  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Finally, the timing must be strictly political, since 17 years of delay is unconscionable. Since you advisors must have found it difficult to understand the scientific literature, may I recommend a scientifically accurate book that is accessible to the non-scientist that may explain the dangers and the need for bold action by the EPA. It is *Living Downstream - An Ecologist Looks at Cancer and the Environment* by Sandra Steingraber, Addison Wesley, NY, 1997.

Response to: CTR-099-004

EPA disagrees with this comment. EPA began work on the CTR in 1994, and only after the State rescinded its ISWP and EBEP. The complexities of this rulemaking have prolonged the CTR process, but EPA is pleased to now be issuing final water quality criteria for toxic pollutants in the State of California.

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Comment ID: CTR-105-002b  
Comment Author: Heather Catherine Park Tausig  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/13/97  
Subject Matter Code: C-21 Legal Concerns  
References:  
Attachments? N  
CROSS REFERENCES C-17a

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Comment: The maximum levels proposed for mercury, dioxin, and thirteen other pollutants have been identified by respected environmental advocacy groups as (1) insufficiently protective, and (2) environmentally unjust, potentially increasing the cancer risks for subsistence fishers, who are, in large part, people of color.

The standards must be established at a level that makes California waters truly "fishable," and not just "fishable if you don't object to cancer."

Thank you for your consideration.

Response to: CTR-105-002b

See response to CTRH-001-010.

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Comment ID: CTRH-001-010  
Comment Author: Greg Karras  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Comm. for Better Environ.  
Document Date: 09/17/97  
Subject Matter Code: C-21 Legal Concerns  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: MR. KARRAS: I'm Greg Karras, K-A-R-R-A-S. I'm with Communities for a Better Environment; I'm a senior scientist.

CBE is a multiracial environmental health and justice organization with 20,000 California members, most of them in the Bay Area. We work with communities imperiled by urban pollution. I represent people who depend upon the environmental health of San Francisco Bay, including people who fish the bay for food.

CBE has worked to clean up the bay for years. We helped EPA establish the first National Estuary Conference and served on the management committee of the San Francisco Estuary Project and signed its consensus plan to protect and restore the bay. We participated in the development of every numeric toxins standard promulgated for the bay, with the possible exception of one adopted by EPA for selenium

in 1992.

We used these standards to leverage toxic prevention that cut toxics of the bay by tons, while netting economic benefits to the manufacturing base and jobs at more than a hundred Bay Area industrial plants. We submitted these data for your work on this proposed rule and we've done a preliminary analysis of the proposal that resulted.

It looks to us as a preliminary matter that EPA's proposed rule today could reverse a decade of environmental policy progress in San Francisco Bay and represent the biggest step backward ever taken for the bay's toxics policies in 25 years under the Clean Water Act. This conclusion is alarming, and this conclusion is surprising.

We hope to find out that we're wrong about that preliminary conclusion. Accordingly, before we make a final judgment, which I understand we need to make by next Friday to submit written comments, I ask that you give CBE and our members, which are the public, important information by answering now or as soon as possible some of our most pressing questions.

On environmental justice, EPA says in its preamble to the proposal that it is EPA's intention to calculate cancer criteria in a way that will provide less protection from cancer for people who rely on locally caught fish for food than it does the average person.

EPA then goes on to say this might still provide adequate protection. However, low-income people of color who fish San Francisco Bay for food are eating up to 60 times more contaminated fish than the state health advisory says is quote, unquote, safe.

And I also note that in Exhibit 8A of your economic analysis, EPA, you say that the hazard from peaks in the mercury and from dioxin in fish consumed in San Francisco Bay exceeds what you consider to be a significant level.

So our first question is simply is EPA proposing to provide the poor --

I should mention, we know from surveys done by several entities in the bay that the vast majority of people who fish the bay and use it for food, rely on it for food, most of them are low-income people and we can determine for sure that the majority are people of color.

So the question is, is EPA proposing to provide poor people and people of color unequal protection under the law?

Response to: CTRH-001-010

See responses to CTR-002-002a and CTR-002-005a (Category C-14; Fish Consumption).

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Comment ID: CTRH-001-017  
Comment Author: Greg Karras  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Comm. for Better Environ.  
Document Date: 09/17/97

Subject Matter Code: C-21 Legal Concerns

References:

Attachments? N

CROSS REFERENCES

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Comment: Finally, this is a daytime hearing. I think the record will show that the vast majority of people who attended this hearing are environmental professionals, and the vast majority of those are people who represent regulated interests and the discharge interests.

The people who are most directly impacted in terms of their health, their livelihood, their ability to work when they're sick, their ability to raise children who don't have slow learning, their rights to fish a clean bay, are not here.

My final question --

And I think it's obvious why many of them are not here. Many of these folks are lower-income people of color, immigrant people, people who are working people, who have the kinds of jobs where it's very difficult for them to ask the boss for time off to attend a hearing of EPA to address fish contamination held at 1:00 p.m. on a Wednesday in the middle of the week.

Will EPA hold a public hearing in the evening on a fishing pier on San Francisco Bay before your proposal is adopted?

Those conclude my questions.

I, again, am serious about getting answers to these now, today, in this hearing or as soon as possible, so that we could make sure that we are as correct as possible in our comments which we will be submitting into the record in writing.

Thank you.

Response to: CTRH-001-017

EPA was unable to hold a public hearing in the evening on the rule. EPA operates during normal business hours. Nevertheless, EPA's intent here is not discriminatory, but rather an administrative necessity in terms of its own staffing, and support mechanisms for its operations. As always, people may submit written comments to EPA if they cannot attend a public hearing.

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Subject Matter Code: C-22 Dissolved v. Ttl Recoverable

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Comment ID: CTR-004-004c  
Comment Author: South Bayside System Authority  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:  
Attachments? N  
CROSS REFERENCES G-05  
C-24a  
C-09

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Comment: Despite the problems addressed above there are provisions of the CTR that SBSA supports, including:

- \* EPA's policies and guidance regarding the use of mixing zones and dilution
- \* Use of water effects ratios (WERs) for determining site specific criteria
- \* Inclusion of metals criteria expressed as dissolved rather than total recoverable
- \* Allowing permit writers the use of any of the methods in EPA's guidance document on the use of translators

Response to: CTR-004-004c

EPA acknowledges the commenter's support.

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Comment ID: CTR-005-003a  
Comment Author: Novato Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/23/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:  
Attachments? Y  
CROSS REFERENCES C-24a  
C-01a  
G-09  
G-05  
G-04

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Comment: 2. The following provisions of the rule are supported: (1) adoption of metals criteria as

dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury; and (4) the Preamble discussions regarding metals translators, mixing zones, and interim permit limits.

Response to: CTR-005-003a

EPA acknowledges the commenter's support.

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Comment ID: CTR-007-001  
Comment Author: Port of San Diego  
Document Type: Port Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:

Attachments? N

**CROSS REFERENCES**

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Comment: The San Diego Unified Port District ("District") supports the general shift from a "Total Recoverables" criterion to a "dissolved" detection method. The District does, however, have a number of concerns with the proposed rule.

Response to: CTR-007-001

EPA acknowledges the commenter's support.

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Comment ID: CTR-017-002a  
Comment Author: Santa Ana River Discharger Ass  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:

Attachments? Y

**CROSS REFERENCES C-24a**

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Comment: Because the California Toxics Rule uses the same approach as the UAA in setting water quality objectives for cadmium and copper, SARDA strongly supports the CTR objectives for those metals. We also agree with EPA's written statements acknowledging the binding character of organic carbon and the role it plays in rendering heavy metals non-toxic. We enthusiastically endorse the agency's decision to include Water Effects Ratio as a formal factor to be considered when formulating water quality objectives. It will do much to adjust national criteria to local conditions.

Response to: CTR-017-002a

EPA acknowledges the commenter's support.

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Comment ID: CTR-021-002c  
Comment Author: LeBoeuf, Lamb, Green & MacRae  
Document Type: Local Government  
State of Origin: CA  
Represented Org: City of Sunnyvale  
Document Date: 09/25/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References: Letter CTR-021 incorporates by reference letter CTR-035  
Attachments? Y  
CROSS REFERENCES G-04  
C-24a  
K-01  
G-05  
G-02

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Comment: Sunnyvale is very supportive of many fine concepts advanced in the proposed CTR, and we join with CASA/Tri-TAC in complimenting the Agency on its proposed positions with regard to such matters as: (a) the use of interim effluent limitations in NPDES permits during the pendency of TMDL and other special studies; (b) the allowance of water effects ratios in adjusting the criteria for metals without the necessity for additional rulemaking to establish site-specific objectives; © the use of the dissolved state for the metals criteria; (d) the use of cooperative, intergovernmental, and stakeholder-involved approaches towards the development of TMDLs;(e) the allowance of dilution for both chronic and acute pollutants; and (f) the allowance of compliance schedules in NPDES permits.

Response to: CTR-021-002c

EPA acknowledges the commenter's support.

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Comment ID: CTR-026-004  
Comment Author: Cal. Department of Fish & Game  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: 4. DISSOLVED V.S. TOTAL RECOVERABLE METALS CRITERIA

The proposed CTR promulgates the metals criteria as dissolved concentrations instead of the historic use of total recoverable concentrations. The DFG has argued against the use of dissolved concentrations as we believe that they do not rally protect aquatic resources. Chemical constituents of natural waters

affect the biota as essential nutrients and as potential toxicants. These interactions are directly dependent on the chemical speciation of the constituents. While it is generally recognized that only the free concentrations of metals are the toxic component, most laboratories do not have the capability to determine the speciation of the metal. Use of only the dissolved fraction to determine criteria promotes the theory that metals adsorbed to sediments or suspended solids are not biologically available. Additionally, not all species of metal which are detected in the dissolved fraction are biologically available.

Metal complexes in natural waters can be classified into three groups: ion pairs, inorganic complexes, and organic complexes. Complex formation is a reversible reaction of two dissolved species to form a third specie. Free metal ions in solutions are really aquo complexes, the water itself is a ligand that binds metals, and every complexation reaction in water is effectively a ligand-exchange reaction. The reaction of a metal with a ligand can be of an electrostatic or covalent nature or both. Speciation tells the fate of metals in the environment (mineral, redox, or bioavailable).

Particulate material is chemically defined as that material retained on a 0.2  $\mu$  filter. The dissolved fraction is that portion smaller than 5  $\mu$ m in size, and the colloidal fraction is between 5.0  $\mu$ m and 0.2  $\mu$ m in size. The EPA definition of particulate material is that material retained on a 0.45  $\mu$ m filter. Therefore, inorganic and organic complexed material will be contained in the dissolved fraction. A large portion of the dissolved nickel in south San Francisco Bay is organically complexed (not bioavailable) and remains in the water column for longer than the resident time of the water mass. Currently, most laboratories that will be affected by the proposed change from total recoverable concentrations will not be able to speciate out the free ions from the inorganic ligands and determine the true toxic concentrations of the metal. For example, at a  $10E-9$  concentration, free copper becomes toxic to aquatic organisms. A single laboratory using the same analytical method, but different analytical conditions, can have different detection windows which provide different speciation information.

Metals retained in the particulate fraction are available to aquatic organisms during the chemical processes of desorption from suspended particles, resuspension via wind mixing and tidal currents, and interstitial-water transport. In addition, the biological processes of ingestion of sediment or suspended solids (e.g., filter feeders, zooplankton, etc.), direct contact transport, and bioaccumulation through the food chain, provide organisms bioavailable metals which are currently retained in the particulate fraction. Average concentrations of particulates are 0.01 ppm in the deep ocean, 10-400 ppm in San Francisco Bay, 50,000 ppm in turbid estuaries, and up to 80 percent in riverine systems. Metals bound to humic acids (freshwater systems) readily dissociate and do not bind for any length of time. In San Francisco Bay, the various forms of selenium are not in equilibrium (surface sediment, water column) and the routes of exposure are additive.

Since the measurement of metals as total recoverable includes that portion associated with sediments or suspended solids, it provides a more accurate (although conservative) descriptor of metal availability in its toxic form. As previously discussed, metals associated with the particulate fraction are available to aquatic organisms through biological and chemical mechanisms. It is now known that metals associated with particulates do not remain permanently associated with the sediments, but rather are transformed into the free ions and become bioavailable. Therefore, the DFG urge the establishment of metal criteria as a total recoverable measurement, at least for the purpose of developing statewide numeric criteria for priority toxic pollutants.

Response to: CTR-026-004

EPA disagrees with the commenter. EPA believes that the scientific evidence indicates that

particulate-bound metals do not contribute toxicity when suspended in the water column, and do not increase in bioavailability if or when settled into sediment. Consequently, EPA believes that to incorporate total recoverable metal criteria into the rule would be an ineffective use of federal, state, and local resources. EPA notes that two expert workshops, one in Annapolis in 1993 (58 FR 32131, June 8, 1993) and one in Pensacola in 1996 (Bergman, H.L. and E.J. Dorward-King (eds.), Reassessment of Metals Criteria for Aquatic Life Protection. SETAC Press. Pensacola, FL.. 1997) were held to discuss this issue. Both workshops recommended that EPA express its criteria as dissolved metal. EPA has found the expert workshop recommendations, with their supporting rationale, to be persuasive.

EPA does not believe that the factual material cited in the comment supports the contention that criteria should be expressed as total recoverable. The information provided in the comment merely indicates that metals exist in both dissolved and particulate forms, and that one can conceive of some potential exposure routes involving particulate metals. However, none of the information provided by the comment suggests that particulate potential exposure routes are in fact actually significant when compared to dissolved metals exposure. Consequently, EPA does not believe that any of the information presented in the comment counterbalances the information provided by the above mentioned workshops, supporting use of dissolved metals criteria.

EPA nevertheless agrees with the comment that not all dissolved metal is bioavailable. For this reason, EPA included the Water-Effect-Ratio (WER) in the equation for criteria in the rule to account for varying site-specific toxicity.

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Comment ID: CTR-027-012a

Comment Author: California SWQTF

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-22 Dissolved v. Ttl Recoverable

References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040

Attachments? N

CROSS REFERENCES C-24a

C-01a

G-09

G-05

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Comment: PROVISIONS OF THE PROPOSED RULE WE SUPPORT

Notwithstanding the above comments, we believe there are certain elements of the proposed rule with respect to establishing water quality standards that we can support:

- \* Metal criteria expressed in the dissolved fraction rather than expressed in the total recoverable fraction.
- \* Metal criteria that are developed as a function of the water-effect-ratio (WER).
- \* The current proposed human health criterion for mercury.

\* The current preamble language regarding metal translators and mixing zones.

We believe the above provisions provide a more acceptable, scientific approach to the water quality-based pollution control approach. We recommend these provisions of the current rule remain as proposed.

Response to: CTR-027-012a

EPA acknowledges the commenter's support.

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Comment ID: CTR-029-002d

Comment Author: Center for Marine Conservation

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-22 Dissolved v. Ttl Recoverable

References:

Attachments? N

CROSS REFERENCES C-17a

C-17b

A

C-27

C-29

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Comment: The Center for Marine Conservation (CMC) is a nationwide, nonprofit advocacy group dedicated to the conservation and enhancement of coastal and ocean life and resources. CMC submits these comments on behalf of its 16,000 members in California and over 120,000 members nationwide.

CMC applauds EPA's efforts to bring California into compliance with the Clean Water Act 303(c)(2)(B). Implementing numeric criteria that will protect the beneficial uses of California's waters is of great importance to the health of coastal and marine ecosystems, and so to CMC and its members. The reliance in many areas of the state on narrative criteria threatens the health of most of the state's waters, thereby impacting both human health and the health of the state's economy that relies on clean water.

While CMC strongly supports the swift adoption of an Enclosed Bays and Estuaries Plan and an Inland Surface Waters Plan that contain numeric criteria for toxic pollutants, CMC also is concerned that many of the specific criteria contained in the proposed rule are weaker than those contained in published guidance. CMC also believes that the proposed rule can better protect certain subpopulations from harm caused by consumption of contaminated fish and shellfish. Finally, CMC is concerned that the economic analysis of the proposed rule over-emphasizes costs and under-reports the many benefits of improving water quality throughout the state. These three points are reviewed below.

**In Light of Significant Threats to Water Quality, the Proposed Rule Should Contain the Most Stringent Criteria That Are Scientifically Defensible**

Many of the criteria in the proposed rule are weaker than criteria in current published guidance. The proposed rule summarily states that the difference between the proposed, weaker criteria and the

published guidance documents is "insignificant"(\*4); however, in light of the current contamination problems in California's waters today, any move backwards, particularly when spread out over the state, must be viewed as significant.

Any weakening of the criteria should be subject to close scrutiny and the most rigorous analysis, which the proposed rule itself does not do. Among other things, the criteria in the proposed rule may be under protective because additive and synergistic effects were not considered; and because the effects on wildlife, which can be particularly significant for bioaccumulative chemicals, were ignored.(\*5) In addition, the proposed rule contains dissolved rather than total recoverable metals criteria, despite the fact that EPA acknowledges that total recoverable metals criteria are "scientifically defensible" and that they are more protective than dissolved metals criteria because they consider "sediment, food-chain effects and other fate-related issues," rather than simply water column impacts.(\*6)

Clean Water Act section 303(c)(2)(B) mandates the development of numeric criteria that will "support such designated uses [that are adopted by the State]." The statistics available on the health of the state's waters indicates that their use already is significantly threatened or impaired by toxics. The strongest criteria supportable by science are necessary to reverse this trend and begin to restore the state's waters.

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(\*4) 62 Fed. Reg. 42159, 42168 (Aug. 5, 1997).

(\*5) Id. at 42168.

(\*6) Id. at 42172.

Response to: CTR-029-002d

See response to CTR-029-002b.

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Comment ID: CTR-032-002b  
Comment Author: Las Gallinas Val. Sanitary Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References: Letter CTR-032 incorporates by reference letter CTR-035  
Attachments? N  
CROSS REFERENCES G-01  
G-09  
C-24a  
C-24  
K  
G-04  
G-05  
G-02

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Comment: Regulatory Flexibility and Relief

The District supports EPA's use of "sound science" and current data in developing the proposed criteria in the California Toxics Rule (CTR). The District strongly supports language in the Preamble that references and endorses recommendations of the State Task Forces including use in permitting of:

\* reasonable potential analyses \* dissolved metals criteria \* translators \* water effects ratios \* site specific objectives \* innovative TMDL processes such as effluent trading \* performance based interim limits \* chronic and acute mixing zones, and \* compliance schedules in NPDES permits.

Response to: CTR-032-002b

EPA acknowledges the commenter's support.

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Comment ID: CTR-034-008

Comment Author: SCAP

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-22 Dissolved v. Ttl Recoverable

References: Letter CTR-034 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES

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Comment: \* SCAP supports EPA's proposed adoption of criteria for metals expressed as the dissolved fraction rather than as total recoverable metals. We recommend that EPA provide guidance to the State in the Preamble to the CTR stating that the State should also use the dissolved form for metals unless it has been demonstrated that the total recoverable form is necessary to protect aquatic resources found in particular water bodies.

Response to: CTR-034-008

EPA acknowledges the commenter's support for the use of dissolved metals. However, EPA disagrees that it should provide guidance indicating that the State should also use the dissolved form of metals. EPA believes that a state can decide to use a more stringent approach.

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Comment ID: CTR-035-002a

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-22 Dissolved v. Ttl Recoverable

References:

Attachments? N

CROSS REFERENCES C-01a

C-08a

G-05  
G-04  
G-09  
K-01  
C-24a

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Comment: Second, we commend EPA for its inclusion in the CTR of several innovative and flexible regulatory approaches, such as metals criteria expressed as dissolved rather than total recoverable concentrations, and the revised human health criterion for mercury. In addition, in light of the issues surrounding the human health criteria for arsenic we support EPA's decision not to promulgate human health criteria at this time. With respect to implementation issues discussed in the Preamble, we support EPA's policies and guidance regarding the application of mixing zones and dilution credits. the use of interim permit limits while Total Maximum Daily Loads (TMDLs) and other special studies are being performed, and EPA's guidance to Regional Water Quality Control Boards (RWQCBs) that they may use any of the methods described in EPA's guidance document on the use of translators. We also support EPA's proposal to create a rebuttable presumption for Water Effects Ratios (WERs), allowing the RWQCBs and SWRCB to develop site-specific WERs that can be approved by EPA during the NPDES permit approval process. We believe that this approach will help facilitate the development of appropriate site-specific adjustments for metals criteria.

Response to: CTR-035-002a

EPA agrees with the comment and acknowledges the commenter's support.

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Comment ID: CTR-035-016  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: pp. 42171-42173 -- Dissolved Metals Criteria We support EPA's policy regarding the expression of criteria for metals as the dissolved fraction, rather than as total recoverable metals. We believe that the dissolved fraction more closely approximates the fraction that is bioavailable, and that metals criteria expressed as total recoverable are usually overprotective. We request that EPA include guidance to the State in the Preamble such that, if the State wishes to adopt metals criteria in the total recoverable form, the State must demonstrate, for the particular water bodies, why the total recoverable form is necessary to protect the aquatic resources.

Response to: CTR-035-016

See response to CTR-034-008.

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Comment ID: CTR-038-002a  
Comment Author: Sonoma County Water Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:  
Attachments? Y  
CROSS REFERENCES C-24a  
C-01a  
G-04  
G-05  
G-09

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Comment: 2. The following provisions of the rule are supported (1) adoption of metals criteria as dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury; and (4) the Preamble discussions regarding metals translators, mixing zones, and interim permit limits.

Response to: CTR-038-002a

EPA acknowledges the commenter's support.

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Comment ID: CTR-039-003a  
Comment Author: San Francisco BayKeeper  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:  
Attachments? N  
CROSS REFERENCES A

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Comment: I. APPLYING DISSOLVED METALS CRITERIA AS PROPOSED VIOLATES THE ANTIDegradation POLICY FOR SAN FRANCISCO BAY AND OTHER WATERS OF THE STATE

The practical effect of EPA's decision to rely on dissolved metals criteria is to allow higher levels of total recoverable metals to be discharged from point sources into San Francisco Bay as well as other waters of the State. Since 1991, many permits in the Bay area and else where have been issued applying the State Water Resources Control Board's technically-based and EPA approved numeric criteria for numerous toxic pollutants. For at least three years, permits throughout the State were required to be issued using the duly-promulgated criteria established by the State Water Resources Control Board ("SWRCB"). After the Sacramento court vacated the criteria on economic grounds, numerous permitting decisions were made by local regional boards and their staffs applying the previously applicable standards using

their best professional judgement ("BPJ") in order to assure the protection of beneficial uses. Each of the permitting decisions based directly or deferentially on the SWRCB's criteria would be more stringent than permits for the same parameters authorized by EPA's proposed rule where a discharger opts to follow the Water Effects Ratio protocol for translating the criteria into a permit limit. BayKeeper would not anticipate that many, if any, dischargers will opt for the default WER of 1.0. Thus, for many regulated dischargers, EPA's proposal will lead to major increases in the total metals they are allowed to discharge into the Bay and other waters of the State. This massive increase in the total pollution proposed to be allowed to be discharged into the Bay and other State waters is completely inconsistent with the State's and EPA's antidegradation policies mandating that existing water quality be maintained and protected. As the State's policy sets forth:

Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.

SWRCB Resolution No. 68-16. Under the federal version of the policy:

[w]here the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development.

40 C.F.R. 131.12(a)(2). The antidegradation policies apply both to permit decisions as well as decisions establishing water quality standards. See, e.g., In The Matter of the Petition of Remmon C. Fay, SWRCB Order No. WQ 86-17 (Nov. 20, 1986). In the case of EPA's proposed rule, throughout California the rule, if adopted, will allow more pollution to be discharged than is currently allowed by permits validly issued to numerous dischargers throughout the State without any consideration of the policies, including the intergovernmental coordination and public participation requirements, required by the antidegradation policies.

Of course, in addition to that procedural problem, BayKeeper is opposed to the proposed reliance on dissolved numbers, especially in the Bay area, because it will in fact allow more pollution to be discharged into the State's waters than is currently allowed today and likely will prove detrimental to beneficial uses. See Comments of Communities For A Better Environment. BayKeeper also is very concerned about the burdens and uncertainty placed on the public by the need for translators in order to apply the dissolved criteria in permit limits that must be based on total recoverable numbers. As noted above, BayKeeper does not anticipate that many dischargers will opt for EPA's proposed WER default of 1.0 BayKeeper views this proposal as an invitation for dischargers to prepare site-specific limitations based on their own studies which will frustrate the public's ability to participate effectively in the formulation of effluent limits. Further, the proposal will present a moving target for the public to understand and will burden the resources of regional board staff to a degree that may undermine the quality of those site by site determinations.

Response to: CTR-039-003a

EPA does not agree that the criteria adopted by the rule in any way violate antidegradation policies. State and federal antidegradation requirements must still be met. EPA believes that the commenter may

have confused antidegradation concerns with anti-backsliding concerns. Anti-backsliding is a permit issue, not a water quality standards regulatory issue.

EPA also does not agree that use of dissolved metals will prove detrimental to beneficial uses. The commenter provides no evidence to support its assertion, and EPA is not aware of such evidence. EPA acknowledges that the complexity of metals criteria application, which stems from the problem that the same concentration of a metal yields different toxicity in different waters, makes it more difficult for non-experts to understand and participate in the formulation of effluent limits. However, EPA believes that incorporation of the dissolved provision and the water-effect ratio provision is necessary for defense of the scientific validity of most of the metals criteria.

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Comment ID: CTR-041-002  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: The District's comments on the proposed CTR are as follows:

1. Items Generally Supported by the District

The District supports a number of the provisions of the proposed rule. That support, however, varies from strong in some cases to a level of grave reservations in other cases. First, the District strongly supports the use of dissolved metals criteria rather than the use of total recoverable metals criteria. The continued use of the dissolved metals approach is a prime example of making a good recommendation based not only on the most recent sound scientific data, but also on the results of both intense national public input and court decisions.

Response to: CTR-041-002

EPA acknowledges the commenter's support.

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Comment ID: CTR-041-007b  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:  
Attachments? N  
CROSS REFERENCES C-01a

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Comment: 2. Additional Strong Reasons to Maintain use of Dissolved Metals and Mercury Criteria

The District also has significant economic reasons to support the use of dissolved metals and the updated mercury criteria. Previous District studies have shown that adoption of metal criterion as total recoverable would cost the District more than \$50 million a year while reducing metal loads in the Sacramento River by several percent. Likewise, if old mercury criteria were adopted it would cost the District over \$100 million a year while reducing mercury loads in the Sacramento River by several percent.

Response to: CTR-041-007b

EPA acknowledges the commenter's support.

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Comment ID: CTR-042-006

Comment Author: Cal. Dept. of Transportation

Document Type: State Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-22 Dissolved v. Ttl Recoverable

References:

Attachments? Y

CROSS REFERENCES

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Comment: 6. The CTR should maintain many of the proposed provisions relating to metals criteria.

Caltrans supports the EPA's decision to include metals criteria expressed as dissolved instead of total recoverable; the development of metals criteria as a function of the Water Effect Ratio (WER); the current proposed human health criterion for mercury; and the use of metals translators and mixing zones. Caltrans is of the opinion that these provisions reflect a more sound scientific approach to regulating metals.

Request: Caltrans requests that the provisions described in the preceding paragraph be maintained in the final draft of the CTR.

Response to: CTR-042-006

EPA agrees with the comment and has maintained the provisions.

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Comment ID: CTR-043-002a

Comment Author: City of Vacaville

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-22 Dissolved v. Ttl Recoverable

References:

Attachments? Y

CROSS REFERENCES C-24a

C-01a

G-04

G-05

G-09

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Comment: 2. The following provisions of the rule are supported: (1) adoption of metals criteria as dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury; and (4) the Preamble discussions regarding metals, translators, mixing zones and interim permit limits.

Response to: CTR-043-002a

EPA acknowledges the commenter's support.

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Comment ID: CTR-044-003a

Comment Author: City of Woodland

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-22 Dissolved v. Ttl Recoverable

References:

Attachments? Y

CROSS REFERENCES C-24a

C-01a

G-09

G-05

G-04

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Comment: We have reviewed the proposed CTR and offer the following comments:

2. The following provisions of the rule are supported:

(1) adoption of metals criteria as dissolved concentrations;

(2) expression of the metals criteria as a function of the water-effect ratio;

(3) adoption of the proposed new human health criteria for mercury; and

(4) the Preamble discussions regarding metals translators, mixing zones, and interim permit limits.

Were the old human health criterion for mercury (0.012 ug/ l) to be adopted, the City would have to remove its discharge from Tule Canal and go to land disposal. The capital cost to do this would be \$22.1 million and the total present worth cost would be \$23.1 million (see Exhibit B, Required Capital

improvements and Costs for Beryllium and Mercury). This would translate to an annual cost of \$3.1 million per year (at 7% over 10 years) and would require that monthly sewer service charges be increased by more than 100%.

Response to: CTR-044-003a

EPA acknowledges the commenter's support.

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Comment ID: CTR-045-004  
Comment Author: Sausalito-Marín Sanitary Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: The District supports many of the items included in the proposed CTR:

The inclusion of metals criteria expressed as dissolved rather than total recoverable concentrations.

Response to: CTR-045-004

EPA acknowledges the commenter's support.

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Comment ID: CTR-052-002a  
Comment Author: East Bay Dischargers Authority  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054  
Attachments? Y  
CROSS REFERENCES C-01a  
G-09  
G-05  
G-04

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Comment: EPA will recall the State Water Quality Plans Task Forces that included all stakeholders, including EPA. The Authority appreciates the incorporation of many of the consensus recommendations from the Task Forces into the CTR, including:

\* Adoption of the metals criteria as dissolved concentrations and the expression of the criteria as a

function of the water-effect ratio

- \* Adoption of the proposed new human health criterion for mercury
- \* Preamble discussions regarding metals translators, mixing zones, and interim permit limits

Response to: CTR-052-002a

EPA acknowledges the commenter's support.

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Comment ID: CTR-054-002a  
Comment Author: Bay Area Dischargers Assoc.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:  
Attachments? Y  
CROSS REFERENCES C-24a

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Comment: BADA supports adoption of the metals criteria as dissolved concentrations and the expression of the criteria as a function of the water-effect ratio. These changes place the metals criteria on a firmer scientific base than the old State Plans. Moreover, previous BADA studies have shown that adoption of the copper criterion as total recoverable could cost Bay Area POTWs several billion dollars while reducing copper loads to the Bay by only several percent (see Attachment 1). Further, building the water-effect ratio into the criteria will lessen the administrative burden on all parties when it becomes necessary to pursue the development of such a ratio. For these reasons, it would not be in the public interest nor consistent with Presidential Order 12866 or the Unfunded Mandates Reform Act to adopt the metals criteria as total recoverable concentrations or to require approval of a site-specific objective whenever a water-effect ratio is developed.

Response to: CTR-054-002a

EPA acknowledges the commenter's support for the use of dissolved metals criteria.

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Comment ID: CTR-056-005  
Comment Author: East Bay Municipal Util. Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References: Letter CTR-056 incorporates by reference letter CTR-054  
Attachments? N

## CROSS REFERENCES

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Comment: Second, EBMUD would like to express to EPA its support for inclusion of:

\* Metals criteria expressed as dissolved rather than total recoverable concentrations,

Response to: CTR-056-005

EPA acknowledges the commenter's support.

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Comment ID: CTR-057-006

Comment Author: City of Los Angeles

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-22 Dissolved v. Ttl Recoverable

References:

Attachments? N

CROSS REFERENCES

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Comment: Metals

We support the EPA's intention to adopt metals criteria that are based on dissolved, rather than total recoverable, fractions in the water column. This provision clears up an issue that seemed straight forward but intractable only a few years ago. This provision will also allow the State to make decisions regarding the use of dissolved or total recoverable on a waterbody-specific basis, which we view as appropriate. The City also supports the proposed Rule with respect to applications of the water effect ratio and metal-translator provision (metal-specific partitioning), even though we do not see an immediate application of the latter with respect to our facilities.

Response to: CTR-057-006

EPA acknowledges the commenter's support.

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Comment ID: CTR-058-003

Comment Author: Western States Petroleum Assoc

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-22 Dissolved v. Ttl Recoverable

References:

Attachments? Y

CROSS REFERENCES

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Comment: 2. Dissolved Criteria for Metals. WSPA supports the use of metals criteria based on the dissolved species.

EPA has reviewed the science in this area carefully over the past several years and rightly concluded that dissolved species best reflect the bioavailability of heavy metals in the aquatic environment. That is, metals species which are not available or reactive to aquatic life should not be regulated as toxics. This proposed rule is consistent with EPA's thorough review of this issue.

WSPA believes that EPA will follow this approach in assessing whether waters of the state meet water quality standards based on these criteria. That is, the waters should be judged based on the presence of dissolved or bioavailable metals, not total metals.

Response to: CTR-058-003

EPA agrees with the commenter and acknowledges its support.

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Comment ID: CTR-065-005

Comment Author: Environmental Health Coalition

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-22 Dissolved v. Ttl Recoverable

References:

Attachments? N

CROSS REFERENCES

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Comment: [INDENT]USE OF DISSOLVED CONCENTRATIONS OF METALS WILL UNDERESTIMATE IMPACTS

EHC does not support the use of dissolved concentrations for metals criteria as it will lead to significant underestimation of levels of contamination. Metals in sediments can be bioavailable or could become bioavailable in the future. EHC recommends the use of total recoverable metals as the appropriate basis for metals.

Response to: CTR-065-005

EPA does not agree. See response to CTR-026-004. EPA does not know of any scientific evidence that indicates that metals loading at the criteria levels would eventually or ultimately yield sediment contamination problems. In addition, EPA does not believe that use of total recoverable metals criteria is an effective or appropriate method for protecting sediments from contamination. Instead of basing metals criteria on total recoverable measurements, EPA is proceeding with the development of Equilibrium Partitioning Sediment Guidelines (ESGs) in order to protect sediments, the contamination of which would generally be related to elevated historical loads rather than to the loads allowed after implementation of this rule. EPA has not found the use of total metal concentrations in sediment to be useful or reliable for expressing ESGs. Rather, EPA has used a measure of the sediment's metal enrichment compared against its metal binding (or detoxifying) capacity. EPA's ESGs ensure that there will not be bioavailable metals by determining that the total extractable metal does not exceed total acid

sulfide concentration in the sediment. The ESGs protect against chronic toxicity to benthic organisms from metals in sediment, and can include effects from exposure through pore water and exposure from ingesting sediment.

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Comment ID: CTR-066-005  
Comment Author: Delta Diablo Sanitation Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Our preliminary review of the CTR finds several areas that we believe are positive changes and will enhance the rulemaking. The areas that we support as now written are as follows:

\* The inclusion of metals criteria expressed as dissolved rather than total recoverable concentrations.

Response to: CTR-066-005

EPA acknowledges the commenter's support.

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Comment ID: CTR-066-019  
Comment Author: Delta Diablo Sanitation Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: \* The proposed metals limits appear to conflict with our current NPDES permit. This will raise questions of our ability to meet the less stringent standards proposed in the CTR. We assume that these new criteria are more scientifically based than four years ago when we negotiated our NPDES permit. Added treatment will surely be required for the four areas of concern we see in the CTR.

Response to: CTR-066-019

EPA acknowledges the concerns about whether the Sanitation District can attain the criteria without added treatment; however, the commenter does not provide EPA with any evidence to support its contentions.

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Comment ID: CTR-067-002  
Comment Author: Ojai Valley Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: \* OVSD supports EPA's proposed adoption of criteria for metals expressed as the dissolved fraction rather than as total recoverable metals. OVSD recommends that EPA provide guidance to the State in the Preamble to the CTR stating that the State should also use the dissolved form for metals unless it has been demonstrated that the total recoverable form is necessary to protect aquatic resources in a particular water body. This is extremely important because OVSD's current NPDES permit specifies limits for total recoverable metals.

Response to: CTR-067-002

See response to CTR-034-008. Note also that permit limits, per 40 CFR 122.45, must still be expressed in terms of total recoverable metal. When derived from a receiving-water dissolved criterion, total recoverable permit limits are calculated by accounting for the fraction of effluent metal that is or becomes dissolved after discharge.

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Comment ID: CTR-077-003  
Comment Author: Bay Planning Coalition  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Dissolved Criteria for Metals

We support the approach that waters should be judged based on the presence of dissolved or bioavailable metals, not total metals, and therefore agree with EPA's conclusion that metals species which are not available or reactive to aquatic life should not be regulated as toxics. We support the use of this approach in assessing whether waters of the state meet water quality standards based on these dissolved species criteria.

Thank you for your consideration of our comments. We look forward to working with EPA and the state in conjunction with the implementation phase of the California Toxics Rule to ensure a well balanced,

feasible and scientifically sound water quality program.

Response to: CTR-077-003

EPA agrees with the commenter.

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Comment ID: CTR-081-002d

Comment Author: West County Agency

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-22 Dissolved v. Ttl Recoverable

References:

Attachments? N

CROSS REFERENCES G-04

C-24a

G-02

G-09

C-01a

C-08a

G-05

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Comment: \* There are many aspects of the CTR that we support. These include: a) Application of interim limits while special studies are performed. b) Approach to water effect ratios for determining site specific criteria. c) Inclusion of provision for compliance schedules. However, this should be modified to allow inclusion of compliance schedules of up to 15 years in permits if deemed appropriate by Regional Boards. d) Metals criteria expressed as dissolved rather than total recoverable concentrations. e) EPA's guidance to Regional Boards regarding use of translators. f) EPA's proposal to create a rebuttal presumption for Water Effects Ratios, g) Revised human health criteria for mercury h) Decision to not promulgate human health criteria at this time in light of issues surrounding health criteria for arsenic. I) EPA's policies regarding application of mixing zones and dilution credits.

Response to: CTR-081-002d

EPA acknowledges the commenter's support with respect to dissolved metals.

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Comment ID: CTR-082-003

Comment Author: City of Burbank

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-22 Dissolved v. Ttl Recoverable

References:

Attachments? N

CROSS REFERENCES

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Comment: The subject rule has a significant impact on our facility discharge and the citizens of the City. We therefore present the following comments for your consideration to re-open the comment period for this rule in order to facilitate a more complete review by public and in particular by those in the POTW community:

\* Metals criteria be expressed as dissolved fraction rather than total recoverable concentrations.

Response to: CTR-082-003

EPA acknowledges the commenter's support.

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Comment ID: CTR-085-006  
Comment Author: Camarillo Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: On several aspects of the California Toxics Rule, the District is in agreement with CASA and SCAP comments:

\* Inclusion of metals criteria expressed as dissolved rather than total recoverable concentrations.

Response to: CTR-085-006

EPA acknowledges the commenter's support.

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Comment ID: CTR-086-004b  
Comment Author: EOA, Inc.  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org: California Dent  
Document Date: 09/26/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References: Letter CTR-086 incorporates by reference letter CTR-035  
Attachments? N  
**CROSS REFERENCES G-01**  
G-09  
C-24a  
C-24  
K-03

G-04  
G-05  
G-02

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Comment: Regulatory Flexibility and Relief

CDA supports language in the CTR Preamble that references and endorses recommendations of the State Task Forces including in part the use of.

\* reasonable potential analyses \* dissolved metals criteria \* translators \* water effects ratios \* site specific objectives \* innovative TMDL processes such as effluent trading \* performance based interim limits \* chronic and acute mixing zones, and \* compliance schedules in NPDES permits.

Response to: CTR-086-004b

EPA acknowledges the commenter's support.

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Comment ID: CTR-089-001a  
Comment Author: Las Virgenes Mncpl Water Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:  
Attachments? N  
CROSS REFERENCES C-01a  
C-08a  
G-05  
K-01  
G-02  
G-09

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Comment: The draft California Toxics Rule (CTR) is clearly the product of substantial effort by USEPA staff, and we applaud this effort and its intent. On several issues of concern to public utilities, the CTR strikes a good balance between the need to promulgate standards and the need to base those standards on sound science. Examples include the use of dissolved concentrations rather than the total recoverable concentrations for metals, the deferral of human health criteria for arsenic until adequate information is available, and the revision of the human health criterion for mercury. We are also pleased with the CTR's guidance and flexibility, on mixing zones and dilution credits, total maximum daily loads (TMDLs), compliance schedules, and translators.

Response to: CTR-089-001a

EPA acknowledges the commenter's support with respect to metals.

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Comment ID: CTR-090-002c  
Comment Author: C&C of SF, Public Util. Commis.  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054  
Attachments? Y  
CROSS REFERENCES C-17a  
C-24a  
G-05  
G-02  
G-04

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Comment: There are many features of the proposed rule which we strongly endorse, specifically:

- \* the use of the latest IRIS values for human health criteria, it is essential that the criteria be based on the latest scientific and environmental information;
- \* recognition that the dissolved fraction of metals, rather than the total recoverable, better reflect the aquatic toxicity of metals;
- \* recognition that for certain metals (e.g. copper and zinc) ambient water chemistry is critical in determining toxicity thereby endorsing the Water Effects Ratio;
- \* recognition and strong endorsement of the multi-tiered mixing zones for acute, chronic and human health effects; and
- \* recognition of interim limits and compliance schedules as appropriate implementation strategies,

Response to: CTR-090-002c

EPA acknowledges the commenter's support with respect to metals.

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Comment ID: CTR-092-002  
Comment Author: City of San Jose, California  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References: Letter CTR-092 incorporates by reference letter CTR-035  
Attachments? Y  
CROSS REFERENCES

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Comment: Dissolved Metals Criteria

The City supports the promulgation of dissolved concentration criteria for priority pollutant metals. Dissolved metal more closely approximates the bioavailable fraction, and thus toxicity, of metal in the water column than does total recoverable metal. The City believes there may be specific instances whereby risk management decisions (sediment resuspension, bioconcentration, food web issues) could result in scientifically defensible criteria based upon the total recoverable fraction. The City recommends, that any such decision be established with relevant data, sound science, peer review, and involve active public participation.

Response to: CTR-092-002

EPA agrees with the comment.

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Comment ID: CTRH-001-003a  
Comment Author: Robert Hale  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: CA Stormwater Task Force  
Document Date: 09/17/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:  
Attachments? N  
CROSS REFERENCES C-24a  
C-1a

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Comment: In summing up -- not summing up, just as a parting shot -- I do appreciate the fact that in working up the toxics rule here that EPA has done certain things which in fact we see as improvements in actually making the standards fit with what we think -- have come to see as perhaps the actual impacts of the stormwater part of this. And by that, I'm referring to the dissolved metals criteria and the water effect ratio in there, and the human health criteria revisions for mercury and the other -- the other items.

I appreciate some of the stuff in there, and -- with the exception of the preamble language. And you really need to get that out of there. We're going to pursue this as far as we have to.

I appreciate your hearing me.

Response to: CTRH-001-003a

EPA acknowledges the commenter's support.

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Comment ID: CTRH-001-024c  
Comment Author: Michelle Pla  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: S.F. Public Utilities Com  
Document Date: 09/17/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable

References:

Attachments? N

CROSS REFERENCES g-02

g-05

c-24a

c-17a

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Comment: MS. PLA: My name is Michelle Pla. I'm with the Public Utilities Commission, City and County of San Francisco.

I made the comment on my card that I also said that I would try to be constructive, and so I'm going to follow my mentor here, Phil Bobel, and say that there are some things in this rule that we're very pleased to see.

We're very pleased to see use of the latest scientific information, particularly the use of latest IRIS, I-R-I-S, numbers-for human health. We're very pleased that you're using dissolved versus total recoverable form for the metals.

We're very pleased to see recognition of the water effects ratios. We're pleased to see recognition for a multi-tiered mixing zone for acute and chronic human health effects and hope that the state pays particular attention to that.

We do have a problem with the way you've described compliance schedules and hope to be working strictly by the state on that as well. We think that the five-year system is fairly shortsighted, and -we can't even do FMDSLs in five years.

Response to: CTRH-001-024c

EPA acknowledges the commenter's support with respect to metals.

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Comment ID: CTRH-001-032b

Comment Author: Dave Brent

Document Type: Public Hearing

State of Origin: CA

Represented Org: CA Water Qual. Task Force

Document Date: 09/17/97

Subject Matter Code: C-22 Dissolved v. Ttl Recoverable

References:

Attachments? N

CROSS REFERENCES c-24a

g-5

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Comment: I would like to take this time to note that I think it contains some important elements that we agree with and believe are reflective of the impact. These include the uses of dissolved metals and the provisions which will enable the state to use mixing zones and water effects ratios and establish site-specific objectives.

Response to: CTRH-001-032b

EPA acknowledges the commenter's support with respect to metals.

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Comment ID: CTRH-001-048  
Comment Author: Michael Lozeau  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: S.F. Bay/Delta Keeper  
Document Date: 09/17/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Particularly in regards to the Bay Area, we are concerned with the EPA's reliance on dissolved numbers, on using a dissolved number for the criteria, and believe that total recoverable would be a more appropriate standard to use.

Total recoverable as proposed, from our initial review, it seems to us that we're going to end up with a lot of existing dischargers that will in fact be allowed to discharge more into the bay, where most, or at least first blush looking at it, most of the metals detected in the bay are present in the dissolved stage, probably attached to sediment, which are a large amount of what's in the bay. It seems that these sediments will disattach themselves and then become dissolved some day.

It seems to me this doesn't take a look at the whole picture, and that is basically carving it off. And it seems to me that the process that led to that wasn't one that was available to all of us to discuss.

It was driven by a case in D.C. and some policy decisions made in Washington, D.C., where here all the permits, of course, are total recoverable units. All of the standards to date that have -- that exist or have been proposed are total recoverable.

Response to: CTRH-001-048

See responses to CTR-039-003a, CTR-065-005, and CTR-026-004.

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Comment ID: CTRH-001-057f  
Comment Author: Dave Tucker  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: San Jose Env. Serv. Dept.  
Document Date: 09/17/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:  
Attachments? N  
CROSS REFERENCES K-03  
C-24a

G-04  
G-07  
G-09  
G-05

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Comment: Some of the flexibility that the City highly supports is the water effect ratio investigations to adjust statewide criteria to site-specific conditions; the interim limits concept while special studies are being conducted by the dischargers and other entities; a variance procedure to allow dischargers to achieve progress toward effluent limit attainment without violating applicable water quality standards; dissolved criteria for metals to reflect the toxicological conditions; translators to adjust dissolved criteria to total permit limitations; trading programs to attain and maintain water quality; and a mixing zone that reflects true instream pollutant conditions and that protects beneficial uses.

Response to: CTRH-001-057f

EPA acknowledges the commentor's support with respect to metals.

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Comment ID: CTRH-002-011c  
Comment Author: Lisa Ohlund  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Alliance of So. CA POTWs  
Document Date: 09/18/97  
Subject Matter Code: C-22 Dissolved v. Ttl Recoverable  
References:  
Attachments? N  
CROSS REFERENCES G-02  
G-04  
K-01

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Comment: Now, I'd briefly like to touch on several issues of importance to SCAP members. In addition, we will be submitting written comments before the close of the public comment period.

I'd like to begin by mentioning our support for several provisions included in the draft CTR, and those include the provision authorizing the use of compliance schedules -- although we don't necessarily agree with the time period -- the expression of metals criteria as dissolved rather than totally recoverable, and discussion in the preamble supporting the use of interim limits in permits, while the total maximum daily loads and other special studies are being performed.

Response to: CTRH-002-011c

EPA acknowledges the commentor's support with respect to metals.

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Subject Matter Code: C-23 Sediments/Dredged Materials

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Comment ID: CTR-007-002  
Comment Author: Port of San Diego  
Document Type: Port Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-23 Sediments/Dredged Materials  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: 1. It is the District's understanding that where sediments exceed the CTR's water quality criteria, the sediment could not be put to a beneficial use after dredging. If this is indeed the case, the District would request that some allowance be given to allow dredged sediments to be put to beneficial use.

Response to: CTR-007-002

The purpose of this rule is to establish numeric criteria for those navigable waters in California that do not have water quality criteria for priority toxic pollutants in place and for which EPA has issued section 304 (a) criteria guidance. Specific implementation procedures regarding the disposal and application of dredged sediments are beyond the scope of the rule. The final CTR does not impact California's ability to designate specific uses, including sub-category of uses that allow for disposal of dredged sediments (e.g., artificial wetlands).

Furthermore, EPA notes that through the state 401 certification process, California would determine whether or not disposal of sediments in a particular instance is consistent with the ambient criteria established in the CTR. In addition, any existing State guidelines for approving beneficial reuse of dredged sediments remain in effect.

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Comment ID: CTR-077-001  
Comment Author: Bay Planning Coalition  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-23 Sediments/Dredged Materials  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: A substantial portion of the membership of the Coalition represent the maritime industry which consists of the six public port authorities and one private port, several vessel carriers, dredging contractor companies, maritime trade unions, shippers, and pilots. The industry is dependent on a safe and navigable waterway system maintained by regular dredging so essential to sustain the Bay as an

international center for trade and commerce.

Dredging applicants must apply for permit approval to dredge and dispose of channel sediment from the federal and state dredging regulatory agencies and are required to evaluate the dredged material to be disposed using a suite of chemical, physical and biological tests. The tests we conduct are very expensive. Due to the high cost, uncertainty and inconclusivity of the test results, essential navigation dredging is often delayed at tremendous expense to the Bay public at large.

#### Numeric Standards for Pollutants as Applied to Dredged Sediment Physical and Chemical Tests

Our primary concern is what effect will the new water quality standards have on the number of and cost for the sediment physical and chemical tests required for dredging permit approval. Will the Toxics Rule standards alter the current protocol contained in jointly signed Public Notice 93-2 entitled, "Testing Guidelines for Dredged Material Disposal at San Francisco Bay Sites"? We have asked the Sediment Management Unit of EPA and the Dredging Regulatory Unit at the S. F. Bay Regional Water Quality Control Board for an assessment of the effect of the Toxics Rule on the current dredging protocol, and we are waiting for a response from them.

We acknowledge that it is the combined results from all tests for dredging (chemical, physical, and biological) which comprise the overall evaluation of potential sediment toxicity and hence acceptability for discharge at unrestricted or restricted disposal sites. In fact the Testing Guidelines indicate that it is the bioassay responses, as indicators of potential toxicity, that will determine the effect of a proposed discharge of dredged material on the receiving aquatic ecosystem, and that the chemistry standards will not be used as pass/fail standards. However, the Guidelines state in the Response to Comments section that, "however, depending on the contaminants of concern and other factors, elevated chemistry could independently indicate the need for more than the routine Tier II testing..." Thus if the water quality standards become more restrictive, then dredging applicants may have to spend more money to conduct more tests.

Further, we are uncertain as to the environmental relevancy of potential lower water quality standards as they may be applied to dredging discharges because there are often false-positive test results between the chemical and biological tests.

Response to: CTR-077-001

See response to CTR-007-002.

The final CTR does not trigger any additional testing of dredged material. The results of any existing testing requirements may be compared to criteria contained in the CTR, but the CTR itself does not address when sediments need to be tested or specify what constituents need to be tested for.

Even under the 404 guidelines, failing WQC does not in itself trigger any additional testing requirements. The process of evaluating dredged material for proposed open water disposal first involves bulk sediment chemistry analysis (required under 404 guidelines for several purposes) and comparison to any applicable numeric criteria (assuming 100% solubility). To evaluate whether or not narrative criteria (e.g., "no toxics in toxic amounts") are met, the elutriate is subjected to standard bioassays (following allowable dilution) regardless of whether or not there are applicable numeric criteria. In the rare instance that the chemistry is projected to exceed a numeric criterion and an elutriate bioassay is passed, additional elutriate chemistry may be required to confirm the numeric criterion failure. But the need for additional chemical evaluation is independent of the criteria used to compare the results. EPA believes there is no

reason to expect more frequent false positives when comparing elutriate chemistry results to CTR criteria than the criteria previously adopted by California.

Furthermore, EPA notes that through the state 401 certification process, California would determine whether or not disposal of sediments in a particular instance is consistent with the ambient criteria established in the CTR. In addition, any existing State guidelines for approving beneficial reuse of dredged sediments remain in effect.

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Comment ID: CTRH-001-021  
Comment Author: Jim McGrath  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Port of Oakland  
Document Date: 09/17/97  
Subject Matter Code: C-23 Sediments/Dredged Materials  
References:

Attachments? N

**CROSS REFERENCES**

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Comment: MR. McGRATH: Good afternoon. My name is Jim McGrath, Environmental Manager for the Port of Oakland. I'm going to testify about a fairly narrow application of the CTR, one not considered and one I think you need to.

The Port of Oakland has built a facility for removal of dredge material from the marine environment. At completion of dredging of about 1 million cubic yards of contaminated sediment, it's pumped into that facility and dried.

The facility has been constructed as a series of ponds, which physically settle the material but do not provide for treatment. The removals in that facility have ranged about 99.98 percent removal or a little better, depending on how it's being operated.

I think the bottom line for it is the permits in terms of the CTR. The standards that were used for discharge from this facility were those of the basin regional board at the time -- in effect at the time. This rule is dangerous due to the limits contained in the CTR, and the nature of the CTR would prevent that operation.

Our discharge limit is 20 parts per million. The CTR would lower that to 3.1 parts per billion. That cannot be met settling fine grain dredge material, clean or dirty, without treatment.

Thus the application of this rule might prevent not only the Galbraith operation, which is intended to and is effectively removing material presently from the marine environment, but could also prevent beneficial use of dredge material that involved a return discharge to the bay. That includes such projects by the Environmental Protection Agency as Sonoma Baylands, already built, and other projects under consideration.

Now, how does that come about? I think the problem is that the rule has been developed under a conceptual mode of input-output. Stuff comes into the bay; it goes out of the bay.

The real world and the real physics is a little more complicated than that. This gets stored in sediment. We dredge -- we in the maritime industry dredge a small amount of what is stored by the dynamic of the contaminant movement in the water column to the sediment bed and back again. That's substantially more complicated than that. Worse than that, the blinders have been put on by the input-output concept, and the thinking is one of a steady state of input-output.

And the rule doesn't contemplate transient impact due to cleanups of some sort and we're particularly concerned about -- that sediment cleanups and resource enhancement don't fit into the conceptual model used to come up with this rule.

So that's the problem. There is -- there are many different ways to deal with that problem. The waiver or variance process could be expanded to allow special consideration of cleanups or resource enhancement projects. You could apply the risk based on overall project management. I'm sure there are opportunities beyond that.

I want to propose a hypothetical problem in the rule: that a literal application would require for sediment cleanups, physical treatment. Under the Clean Water Act, the standard on dredge material is practicability, and you've got two different regulatory approaches.

If you're talking about cleanup of the sediment in the marine environment, feasibility is an element. And I can tell you from experience, very little contaminated sediment will be dredged if physical treatment rather than settling is going to be required.

Response to: CTRH-001-021

See response to CTR-007-002.

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Comment ID: CTRH-001-059  
Comment Author: Ellen Johnck  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Bay Planning Coalition  
Document Date: 09/17/97  
Subject Matter Code: C-23 Sediments/Dredged Materials  
References:

Attachments? N

**CROSS REFERENCES**

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Comment: I'm Ellen Johnck, director of the Bay Planning Coalition, a San Francisco Bay planning coalition organization, a membership organization of about 200 members that reflect the maritime industry, shoreline business and industry, several small and large property owners, recreational use and local governments and many counties and cities.

I am here today because I want EPA to understand the far-reaching effect of this particular California Toxics Rule on the broad range of recreational, commercial and environmental uses and users here in the estuary.

One of the major things that we have seen with this California Toxics Rule is that it affects our

international commerce and our trade, which is totally dependent on the navigation channel. We have to dredge about 4 to 5 million cubic yards of material each year from the channel in order to support the Bay's trade and economy.

What this rule will affect will be our terrific program that was initiated in the last several years to try to expand the reuse of dredge material for environmental purposes.

In corroborating Mr. McGrath's statements for the Port of Oakland, we discovered that our whole program to restore wetlands of the bay with dredge material actually will not be able to happen because of discharge limits, because the standard could not be met.

And we frankly think that the Environmental Protection Agency needs to look at the whole numeric criteria and how it was devised. It really is not as scientific as that could be, as we look at interaction with the Bay and the properties of the metals attached to it as sediment, therefore, making these metals not necessarily available and having an environmental effect.

So I think my point, number one, is that this -- and I really don't think EPA wants to deter the environment reuse of dredge material -- it will be exceeding the numeric criteria particularly for copper and will deter the environmental reuse of dredge material.

Response to: CTRH-001-059

See response to CTR-007-002.

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Subject Matter Code: C-24 Site Specific Criteria

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Comment ID: CTR-002-003

Comment Author: Comm. for a Better Environment

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-24 Site Specific Criteria

References:

Attachments? Y

CROSS REFERENCES

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Comment: II. THE EPA PROPOSALS WILL NOT PROTECT FISHING AND OTHER USES OF SAN FRANCISCO BAY WATERS OR PROVIDE EQUAL PROTECTION FOR PEOPLE OF COLOR.

A. The criteria allow more pollution than prior technically-based criteria.

The proposed criteria would replace criteria found to be scientifically sound by the State Water Resources Control Board staff, adopted by the state, and approved by EPA, for San Francisco Bay in the 1991 California Bays and Estuaries Plan>(\*10) the 1986 San Francisco Bay Basin Plan>(\*11) and the Basin Plan amendment adopting the 1992 Site Specific Copper Objective for San Francisco Bay.(\*12) Table I compares the lowest concentration criteria for the 64 toxic pollutants identified by the San Francisco Estuary Project as "pollutants of concern" for the Bay.(\*13) The EPA criteria proposal:

\*weakens environmental health protection for 37 of these 64 toxic pollutants (58%). It allows greater ambient water concentrations for 30 pollutants, includes new extremely liberal criteria for 4 of the 64 pollutants, and fails to replace previous state criteria for 3 pollutants,

\*makes no change for 24 of these 64 pollutants (37%). It includes equivalent criteria for 6 pollutants, and includes no criteria for 18 pollutants which had no state-adopted criteria.

\*improves criteria for only 3 of the 64 pollutants (5%). It includes new restrictive criteria for 2 pollutants, and proposes a criterion allowing 200,000 instead of 300,000 ug/L toluene.

The magnitude of increased pollutant concentrations allowed in Bay waters by EPA'S proposal is estimated in Table 2. The first column in this table lists all the toxic pollutants for which EPA proposes more liberal criteria than those adopted by California for the Bay. Footnotes to this column further describe these pollutants. For example: dioxin includes 17 dioxin-like compounds included in the state criterion and current permit limits; and PAH includes the sum of 13 polycyclic aromatic hydrocarbons included in the state's PAH criterion and 8 of these compounds for which EPA proposes criteria.

The second column in Table 2 shows the lowest concentration criteria adopted by California for these pollutants in the Bay, with footnotes indicating the source of these criteria and whether they address human health or aquatic life. The third column shows the corresponding lowest concentration criteria for these pollutants proposed by EPA. Where the EPA-proposed criteria are expressed differently from the state criteria for a pollutant, calculations that more accurately compare the criteria are shown in footnote j to this column. These calculations fall into three general cases:

\*Dioxin comparisons - California's dioxin criterion applies to 17 internationally recognized dioxin-like compounds, while EPA's proposal applies to I only, 2,3,7,8-TCDD. EPA'S chief dioxin scientist and other international experts estimate that the other dioxins account for about 90% of environmental dioxin toxicity.(\*14) Thus, EPA's criteria value was multiplied by 10 to estimate the toxicity from California criteria dioxins at EPA's 2,3,7,8-TCDD value of 1,4 pg/IOOL. New data may change the 90% estimate, but not the finding that EPA's proposal is weaker.

\*PAH comparisons - California's PAH criterion sums the amounts of 13 compounds, while EPA proposes individual criteria for only 8 of these 13 compounds. EPA criteria values for these 8 compounds were summed for comparison to California's 13-compound criterion. This approach underestimates the amount of PAH allowed by EPA's criteria by assuming a value of zero for each of the 5 compounds which lack EPA-proposed criteria.

\*Total versus dissolved metals comparisons - California metals criteria are expressed as total metal while EPA's proposals are often expressed as dissolved metal. Ultra-clean measurements of Bay waters in 1989>(\*15) and 1995 (arsenic and chromium)(\*3) indicate that total concentrations are often much greater than dissolved concentrations for the same metal, For example, in 5% of Bay samples total copper is at least 3.5 times dissolved copper. At these times dissolved copper levels equal to EPA's 3.1 ug/L criterion correspond to total copper levels of 10.8 ug/L or greater. Ratios for other metals based on this 5% (95th percentile) analysis, which is used by EPA to prevent excursions above criteria more than once in 3 years, are shown in footnote (\*j). Analysis of additional data may alter these ratios, but will not change the conclusion that EPA'S proposed dissolved criteria will allow greater water concentrations than total metal criteria.

The estimated magnitude of increased pollutant concentrations allowed in Bay waters by EPA's proposed criteria is shown in the right-hand column of Table 2. EPA's proposal allows 430 million percent more PAH, 23,600% more lead, 3,900% more 1,4-dichlorobenzene, 910% more silver, 900% more dioxin, 630% more chlordane, 340% more DDT, 325% more mercury, 140% more PCBs and 120% more copper in the Bay as compared to state-adopted criteria, based on these estimates. Review of Table 2 also shows that allowable Bay water concentrations would double or more for 18 toxic pollutants in all.

In sum, comparison with the state criteria that would be replaced indicates that EPA's proposed criteria allow increased toxic pollution of San Francisco Bay by at least 37 toxic pollutants representing 58% of the pollutants of concern identified by the San Francisco Estuary Project, allow pollution to increase by about 1,000% or more for extremely toxic pollutants such as dioxin and PAH, and allow pollution to double or worse for 18 toxics including nearly all pollutants known to be of greatest concern in the Bay.

None of the state criteria which the EPA proposals are compared to were set aside because they are scientifically invalid, Rather, some of these criteria, which were adopted in the 1991 Bays and Estuaries Plan, were set aside by a state court on procedural grounds only.(\*12) and still form the basis for permit limits written by the state for the Bay.(\*21) EPA's proposed criteria allow toxic pollutant concentrations greater than those found by the state to be scientifically appropriate for protection of aquatic life and public health.

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(\*3) San Francisco Estuary Institute, 1997. Regional monitoring program for trace substances 1995 annual report. Excerpts including pages 105, 3, and A-17 through A-24 showing the percentage of sediment bioassays (larval bivalve and Eohaustorius tests) that were toxic (less than 80% of control value) at RMP stations from 1991-1996, sampling stations, and dissolved and total metal, and PAH

concentrations in San Francisco Bay waters.

(\*10) California State Water Resources Control Board, 1991. California Enclosed Bays and Estuaries Plan; water quality control plan for enclosed bays and estuaries in California. 91-13WQ. April, 1991. Excerpt including adopted water quality criteria and definition of terms.

(\*11) California Regional Water Quality Control Board, San Francisco Bay Region, 1986. Water Quality Control Plan, San Francisco Bay Region (2). December, 1986. Excerpt including adopted water quality criteria (objectives) for toxic pollutants in the Bay, and segmentation scheme.

(\*12) California Regional Water Quality Control Board, San Francisco Bay Region, 1992. Resolution No. 92-128, adopting an amendment to the water quality control plan and requesting approval from the State Water Resources Control Board. October 21, 1992; and State Water Resources Control Board Workshop Session, April 6 and 7, 1994. Consolidation of the amendments to the water quality control plan for the San Francisco Bay basin regarding a site-specific water quality objective and plan of implementation for copper and addressing nickel. Excerpts including site specific water quality criterion for total copper in San Francisco Bay, and showing that the State Water Resources Control Board staff found "the technical aspects of the site-specific copper objective are valid."

(\*13) San Francisco Estuary Project, 1992. State of the estuary, a report on conditions and problems in the San Francisco Bay/Sacramento-San Joaquin Delta estuary. Prepared under cooperative agreement #CE-009486-02 with the U.S. Environmental Protection Agency, by the Association of Bay Area Governments, Oakland, CA. June, 1992. Excerpt including Table 18 (page 163): Pollutants of concern in the Bay/Delta estuary.

(\*14) Presentation by Dr. William Farland, EPA, at the May 7, 1997 Workshop on dioxins held by the Regional Water Quality Control Board, San Francisco Bay Region in the Hearing Room of the 'BART headquarters building, Oakland, CA. Excerpt from the RWQCB's tape of the workshop discussing toxicity equivalents data from mechanistic, laboratory and field analyses.

(\*15) Flegal et al., 1990. Trace element cycles in the San Francisco Bay estuary: results from a preliminary study in 1989-1990. Final report to the State Water Resources Control Board. Institute of Marine Sciences, U.C. Santa Cruz. Excerpt showing dissolved and total metal concentrations measured in San Francisco Bay waters.

(\*21) California State Water Resources Control Board, 1997. Staff technical report, Division of Water Quality, Petitions of CBE, San Francisco BayKeeper, and Tosco Corporation for review of Order No. 95-138 of the San Francisco Bay Regional Water Quality Control Board. Office of Chief Counsel [OCC File Nos. A-983 and A-983(A)].

Response to: CTR-002-003

Overall, EPA disagrees with this comment, which alleges that the CTR "weakens environmental health" for 37 of 64 "pollutants of concern."

Much of the premise for this comment is flawed, because it compares CTR ambient criteria with State and San Francisco Bay Regional Board criteria which are not in effect. The 1991 California Enclosed Bays and Estuaries Plan (EBEP) was rescinded by the State Water Resources Control Board. [Note: California's 1991 Inland Surface Water Plan (ISWP) was rescinded at the same time. Since this comment does not compare CTR criteria to ISWP criteria, however, this response does not address the ISWP.] The State Board returned the 1992 site-specific copper objective for San Francisco Bay to the Regional Board, and it has never taken effect. EPA is now promulgating the CTR to put criteria in place in California where currently there are no applicable EPA-approved criteria in effect, including where criteria were affected by these State actions. The CTR criteria do not revise or replace those State

criteria, because those criteria simply do not exist for CWA purposes.

The commenter also compares CTR criteria to criteria in the 1986 San Francisco Bay Basin Plan. For waters where the criteria that were included in the 1986 amendments to the Water Quality Control Plan for the San Francisco Bay Region (the Basin Plan) and were approved by EPA are still in effect under the 1995 Basin Plan amendments, EPA is not promulgating CTR criteria. The 1986 criteria will therefore remain in effect for those waters. (See response to CTR-016-001.) For those criteria, the commenter's concerns have been addressed.

Another flaw in this comment is that CTR criteria are evaluated for 64 "pollutants of concern" which were identified by the San Francisco Estuary Project. While most of these pollutants are priority pollutants subject to the requirements of CWA section 303(c)(2)(B), 17 are not. The CTR is limited to the promulgation of numeric water quality criteria for priority pollutants, to fully implement section 303(c)(2)(B) in California. It is beyond the scope of the CTR to include other pollutants, even if they are pollutants of concern for the Bay. The commenter may seek to have the State, through its Regional Board, address the possibility of adopting or revising criteria for those non-priority pollutants through its triennial review process, but that approach would not affect the CTR.

With those general observations, EPA responds as follows to the following specific concerns included in this comment:

A. The CTR allows "greater ambient water concentrations" for 30 pollutants

The commenter's discussion of this concern is confusing because only 24 specific pollutants are identified by the commenter (in its Table 2) for this concern, and footnotes for 6 of these indicate that these 6 actually represent enough additional pollutants to make the total number of individual pollutants greater than 30. EPA is responding, therefore, based on the 24 pollutants identified in Table 2.

EPA is "promulgating around" several of these pollutants for those waters of San Francisco Bay where State-adopted, EPA-approved criteria from the 1986 Basin Plan remain in effect, as discussed above. For those waters of San Francisco Bay where EPA is promulgating these 24 criteria, however, EPA agrees that 10 of the 24 CTR criteria in Table 2 (all of the Table 2 criteria, with the exception of nine metals, DDT, endrin, endosulfan, PAHs and dioxins, which are discussed below) would allow greater ambient concentrations than the EBEP criteria would have allowed if it was presently in effect. These CTR criteria, however, are based on sound science, which supports a finding that these criteria are fully protective of the designated uses listed in the CTR. For some criteria, the CTR criteria are based on additional scientific data developed not only since those State criteria were first proposed, but in some cases since the National Toxics Rule (NTR) was adopted by EPA in 1992. The new data further supports the conclusion that the CTR criteria are fully protective of designated uses listed in the CTR. The scientific bases for all of the CTR criteria are set forth in the California Toxics Rule Administrative Record Matrix. See also, National Recommended Water Quality Criteria, 63 Fed.Reg. 68354, December 10, 1998, as corrected, 64 Fed.Reg. 19781, April 22, 1999.

EPA disagrees with the commenter's contention that the CTR will allow increased concentrations of metals in San Francisco Bay. First, EPA notes that the CTR does not include criteria for most metals in much of the San Francisco Bay. Most of the metals criteria in the 1986 Basin Plan (which includes all of the commenter's nine metals, except copper), that were approved by EPA, remain in effect, therefore ambient concentrations for those metals criteria are not affected by the CTR. EPA is, however, promulgating metals criteria for the South Bay (below Dumbarton Bridge) and a saltwater aquatic life copper criterion for waters of the Bay with salinities greater than 5 ppt, because there are no comparable

Basin Plan criteria for those pollutants presently in effect. Since the CTR does include these metals criteria for these waters of San Francisco Bay, EPA has considered the commenter's comparison of ambient concentrations for pollutants in the Bay, which the commenter predicts will result from application of the different metals criteria, and EPA disagrees with those comparisons.

The commenter has compared CTR metals criteria, which are expressed as dissolved metals, with EBEP and copper site-specific criteria, which were expressed as total recoverable metals, by performing a calculation (the "5% analysis") on the CTR metals criteria prior to comparing them with EBEP metals criteria. This is not a recognized basis for comparison between dissolved and total recoverable metals criteria, however, and it is not adequately explained or supported. EPA therefore cannot accept the results of this analysis, which yields greatly exaggerated concentrations of the CTR metals criteria. EPA does not propose an alternative basis for a general comparison between dissolved and total recoverable metals, because the relationship between the two forms of metal varies depending on site-specific and time-specific conditions (which the State must address through the use of translators when implementing the criteria). Instead, EPA relies on sound scientific information which supports the conclusion that the CTR dissolved metals criteria are themselves protective of the designated uses that they are adopted to protect (see the California Toxics Rule Administrative Record Matrix). See also, National Recommended Water Quality Criteria, 63 Fed.Reg. 68354, December 10, 1998, as corrected, 64 Fed.Reg. 19781, April 22, 1999.

EPA also disagrees with the commenter's comparison between CTR criteria and four other EBEP criteria. The commenter compared sums of individual CTR criteria concentrations and compared them with "single" EBEP criteria. The four single EBEP criteria, however, represent four pollutant groups that the State created by combining individual pollutants into groups under the four pollutant names. (The EBEP groups are "DDT", "Endrin", "Endosulfan" and "PAHs".) The CTR, on the other hand, includes individual pollutants without grouping them. The commenter added the concentrations for individual CTR criteria for each of the 4 EBEP criteria groups and compared the sums with the single concentrations for each of the 4 EBEP criteria. This approach resulted in some very questionable comparisons.

For the DDT group, the CTR human health criteria for DDT, DDE and DDD are 0.59 ng/L, 0.59 ng/L and 0.83 ng/L, respectively. The sum of these criteria would be 2.01 (rounded to 2) ng/L, not 2.6 ng/L as the commenter contends. For the PAH group, the sum of the CTR's eight individual criteria would be 392 ng/L, not 135,000,000 ng/L as the commenter contends. For the Endrin group, the commenter has ignored applicable CTR aquatic life criteria. These aquatic life criteria are significantly more stringent than the CTR human health criteria which the commenter used as the sole basis for comparison. Had the commenter compared the EBEP human health criterion for Endrin to the sum of the appropriate CTR criteria for Endrin and Endrin Aldehyde (using the CTR's chronic saltwater aquatic life number for Endrin and the human health fish consumption number for Endrin Aldehyde), the figures would have shown the CTR to be equivalent to the EBEP criterion, not less stringent.

Notwithstanding these errors, the commenter's approach is simply not a basis for revising the CTR criteria for pollutants in these four groups. As stated above, the comparisons are made to State criteria which are no longer in effect. The CTR is promulgated to put criteria in place where there presently are no State-adopted EPA-approved criteria in effect. The CTR is promulgated to meet the requirements of CWA section 303(c)(2)(B), which requires adoption of numeric criteria only for those toxic pollutants listed pursuant to section 307(a)(1) for which EPA has already adopted section 304(a) criteria. EPA has adopted section 304(a) criteria for the individual pollutants, not for the pollutant groups. As stated in the preamble to the proposed CTR and in response to CTR-016-002, EPA will work with the State to approve acceptable State-adopted criteria and intends to stay the CTR when EPA approves such criteria.

The commenter includes a further concern regarding polynuclear aromatic hydrocarbons (PAHs), which is one of these four pollutant groups. The commenter alleges that the CTR includes criteria for eight of the 13 PAHs which are included in the single EBEP criterion for PAHs, and omits the other five. This is not entirely correct. (Even if it were correct, it would not alter the fact that comparing the sum of eight PAHs to a single PAH criterion is invalid.) Of the five pollutants which the commenter alleges are omitted from the CTR, two are, in fact, included in the CTR, but under slightly different names. (Benzo(a)Anthracene (CAS number 56553) and benzo(b)Flouranthene (CAS number 205992) replace the EBEP's 1,2-benzanthracene and 3,4-benzoflouranthene, respectively. The CTR and the EBEP used different naming conventions, but the pollutants are the same chemicals.) It is true, however, that the CTR does not include numeric criteria for three of the 13 PAHs. As discussed in part C and D, below, acenaphthylene, phenanthrene and benz(ghi)perylene are no longer considered carcinogens, and EPA has not developed criteria levels for these toxic pollutants as non-carcinogens. In the absence of such guidance, numeric criteria for these three pollutants are not included in the CTR. [Note: benzo(ghi)Perylene (CAS number 191242) also is the same as one of the EBEP's PAHs (1,12-benzopyrene), but with a different name.] The CTR is consistent with the NTR (40 CFR 131.36 (b)(1)) in regard to all of the PAHs.

It should be further noted that for much of San Francisco Bay, the applicable Basin Plan includes a single criterion for PAHs comparable to the EBEP PAHs criterion, which EPA has previously approved. To the extent that the Basin Plan criterion may be more stringent than the CTR objectives for individual PAHs, it would take precedence over the CTR criteria as a basis for controlling PAHs in the part of the Bay where it applies.

The remaining pollutant among the 24 is "dioxin". The commenter has multiplied the single CTR dioxin criterion by 10 before comparing it with the single EBEP dioxin criterion. The commenter multiplied the CTR criterion for 2,3,7,8-TCDD "to account for...16 other dioxins" before comparing it with the EBEP criterion for "TCDD equivalents". The commenter then concluded that EPA was allowing a 900% increase in "dioxin". EPA disagrees with the 900% figure, because the relationship between this figure and the 16 other dioxins is unexplained. EPA does agree that the CTR could allow for greater concentrations of all dioxins and dioxin-like compounds in San Francisco Bay than the EBEP's dioxin criterion might have allowed, but does not agree that this is inevitable.

The EBEP's single dioxin criterion ("TCDD Equivalents") represented the sum of 17 dioxins and dioxin-like compounds. The CTR, on the other hand, includes a single dioxin criterion for a single dioxin compound (2,3,7,8-TCDD). The numeric values for the two criteria (the ambient concentration limits allowed by the two criteria) are the same.

EPA notes that 2,3,7,8-TCDD is the only EBEP dioxin compound included on the CWA section 307(a)(1) list. It is also the only 307(a)(1)-listed dioxin for which there is a CWA section 304(a) criterion. The CTR is promulgated to meet the requirements of CWA section 303(c)(2)(B), which requires adoption of numeric criteria only for those toxic pollutants listed pursuant to section 307(a)(1) for which EPA has already adopted section 304(a) criteria. EPA is therefore not required to include criteria for any dioxin compound other than 2,3,7,8-TCDD in the CTR. For California waters, if designated or beneficial uses may be impaired by the discharge of other dioxin or dioxin-like compounds, numeric water quality-based effluent limits may be included in NPDES permits through the use of the narrative criterion. EPA strongly encourages the State to adopt either the same national/international convention of toxicity equivalence (TEQ) to account for the presence of other dioxins, furans and other dioxin-like compounds, which the State adopted in its EBEP, or a more recent, comprehensive convention. EPA believes that the State should apply this recognized method for regulating dioxin compounds and believes that this would

address the commenter's concerns.

The EBEP relied on the TEQ convention's nationally/internationally consistent set of toxicity equivalence factors (TEFs) as multipliers for the 17 dioxins, to convert them to the single TCDD Equivalents criterion. Thus, the EBEP's TCDD Equivalents criterion results from the same calculations that EPA believes should be applied to the CTR's 2,3,7,8-TCDD criterion.

If the State of California did not apply the TEQ convention to the CTR criterion to account for the presence of other dioxins, furans and other dioxin-like compounds, it is possible that, under the CTR, the total concentrations of alldioxin and dioxin-like compounds in the Bay could allowably exceed the EBEP concentration limit even though 2,3,7,8-TCDD by itself does not exceed that limit. For this reason, EPA strongly encourages the State to limit these other compounds through the application of TEQ.

If the TEQ convention were adopted, and TEF applied to the CTR criterion, the commenter's comparison between the CTR and the EBEP numbers could reasonably conclude that there was no difference between the two. (Alternatively, the commenter might have concluded that the CTR was more inclusive than the EBEP. The commenter refers to 17 dioxin compounds which are included in the EBEP's criterion for TCDD equivalents. The CTR's 2,3,7,8-TCDD criterion is intended to include all dioxins and dioxin-like compounds for which there are TEFs, which are far more than 17.) As long as California applies the national/international TEQ/TEF conventions to implementation of the 2,3,7,8-TCDD criterion in the CTR, as it applied them to implementation of the TCDD Equivalents criterion in the EBEP, then greater concentrations of dioxins will not be allowed to be discharged under the CTR.

B. The CTR includes "new, extremely liberal criteria" for 4 pollutants

This part of the comment is very vague. It appears from the context of this concern, however, that "extremely liberal" means something less than "allows greater ambient water concentrations", for which the preceding group of criteria is criticized. For these four pollutants, the commenter does not allege that the CTR criteria are unprotective of the designated uses. In fact, the CTR criteria for these pollutants (acenaphthene, ethylbenzene, antimony and hexachlorobutadiene) are based on recent, sound science which supports the determination that the criteria are protective of the designated uses (see the California Toxics Rule Administrative Record Matrix). See also, National Recommended Water Quality Criteria, 63 Fed.Reg. 68354, December 10, 1998, as corrected, 64 Fed.Reg. 19781, April 22, 1999.

C. The CTR "fails to replace previous state criteria" for 3 pollutants

Of these 3 criteria, one (tributyltin) is not a priority pollutant. This pollutant, as discussed above, is therefore beyond the scope of the CTR, regardless of whether the State had previously adopted statewide criteria for it.

For the other two pollutants (acenaphthylene and phenanthrene), both EPA and the State have previously included human health criteria based on carcinogenicity in proposed or final water quality standards. EPA included such criteria in the 1991 proposed NTR (56 Fed.Reg. 58442-58443), and California adopted them in the 1991 EBEP (EBEP, Table 2 and Appendix 1). However, in the 1992 final NTR, EPA deleted these criteria, having found that there was inadequate toxicity data to assess their carcinogenic potential and that any criteria for these pollutants should therefore be based on

non-carcinogenic effects. Since there were no reference doses to calculate non-carcinogenic criteria for these pollutants, no numeric criteria were included for them in the final NTR. (57 Fed.Reg. 60868, 60887.) There has been no change from this position since 1992, and they are therefore not included in the CTR.

D. The CTR "includes no criteria for 18 pollutants which had no state-adopted criteria"

Of these 18 pollutants, identified in Table 2 of this comment, only two are priority pollutants. The other 16 are beyond the scope of the CTR.

Of the two pollutants which are priority pollutants, benz(ghi)perylene was withdrawn from the final NTR and is therefore not included in the CTR for the same reasons discussed in Part C, above, for acenaphthylene and phenanthrene. For naphthalene, EPA has not published 304(a) criteria. CWA section 303(c)(2)(B), which the CTR is implementing in California, requires that numeric water quality criteria be adopted only for those priority pollutants for which 304(a) criteria have been published, therefore naphthalene is beyond the scope of the CTR.

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Comment Author: City of Riverside

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: C-24 Site Specific Criteria

References:

Attachments? N

CROSS REFERENCES

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Comment: 6) In the forward to the rule the suggestion is made that no new SSOs will be approved by USEPA after the rule is promulgated due to lack of resources and the level of effort necessary for such action. Although we appreciate your candor, we do not believe that that is an appropriate response given the potential waste of public and private funds to comply with inappropriate standards.

Response to: CTR-003-006

EPA disagrees with this comment. We believe that the commenter misunderstood the cautionary language that was part of the proposed rule. The CTR does not preclude state adoption of criteria after the CTR has been promulgated. As EPA stated in the preamble to the proposed CTR, when the State has completed its own process, and EPA approves the State's new or revised criteria, EPA intends to stay the CTR. Similarly, if the State adopts site-specific criteria (including site-specific Basin Plan criteria adopted by Regional Boards which have completed the State review and adoption process), and EPA has approved them based on their individual merits, EPA intends to stay that portion of the CTR that applies more general criteria to the specific site. Each individual stay on a site-specific basis would require federal rulemaking on a case-by-case basis, and generally require more detailed effort on the Agency's part than a statewide stay.

Moreover, it is possible that State-adopted criteria could become effective for CWA purposes within the State even prior to EPA approval or rulemaking, although this would change if a rule that EPA has

recently proposed is promulgated as proposed. The "Alaska Rule," 64 Fed.Reg. 37072, July 9,1999. Until the Alaska Rule goes final, the State could adopt new or revised standards which are more stringent than the CTR, and those standards would be effective for CWA purposes within the state without any EPA action. Moreover, prior to a final Alaska Rule, the State could adopt statewide standards, and if EPA approved those standards and stayed the CTR based on them, then subsequent site-specific criteria would apply within the State when adopted by the State without requiring additional EPA approval or rulemaking. If the Alaska Rule becomes final as proposed, however, regardless of whether the CTR has been stayed, only state-adopted criteria which are more stringent than the otherwise applicable standards could be applied within the State, prior to EPA approval of those standards.

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Comment: Available Regulatory Relief under the California Toxics Rule

The Preamble to the California Toxics Rule (CTR), and the rules accompanying Economic Analysis (EA), place a great deal of emphasis on the ability of dischargers to use alternative regulatory approaches to comply with CTR criteria if the cost of treatment technology was prohibitively expensive. For example, the EA assumes that, if the estimated annualized cost for removing a pollutant exceeded a cost trigger,(\*1) "dischargers would explore the use of alternative regulatory approaches to comply with CTR-based effluent limits." EA at. pg. 4 (emphasis added). Based on this assumption, no treatment cost was estimated for the facility. (\*2)

The types of alternative regulatory approaches assumed available for dischargers in California include phased total maximum daily loads (TMDLs), water quality standard variances, site-specific criteria, change in designated use, and alternative mixing zones. EA at pg. 4-5. The following sections will discuss each of EPA's proposed methods for regulatory relief and explain whether or not these methods can truly be used to provide relief from the CTR-based permit limits as anticipated by EPA. It should be noted that the actual language of the rule itself does not mention any of the methods of regulatory relief. Therefore, this analysis will be based solely upon the language contained in the Preamble to the CTR.

#### Site-Specific Criteria

Another one of the avenues of potential regulatory relief discussed in the Preamble to the CTR is the adoption of site-specific water quality criteria. The Preamble provides that the "State has the discretion to develop site-specific criteria when appropriate e.g., when statewide criteria appear over or under protective of designated uses. The Preamble goes on to explain the site-specific criteria adoption process as follows:

Periodically, the State through its RWQCBs will adopt site-specific criteria for priority toxic pollutants

within respective Basin Plans. These criteria are intended to be effective throughout the Basin or throughout a designated water body. Under California law, these criteria must be publicly reviewed and approved by the RWQCB, the SWRCB, and the State's Office of Administrative Law (OAL). Once this adoption process is complete, the criteria become State law. These criteria must be submitted to the EPA Regional Administrator for review and approval under CWA section 303. These criteria are usually submitted to EPA as part of a RWQCB Basin Plan Amendment, after the Amendment has been adopted under the State's process and has become State law. CTR Preamble at pg. 42165.

The Preamble explains that the State of California has recently reviewed and updated all of its RWQCB Basin Plans. All of these Basin Plans, some of which contain site-specific criteria, have completed the State review and adoption process and have been submitted to EPA for review and approval. The key to whether or not these site-specific criteria will provide regulatory relief is when the EPA approval/disapproval occurs. Three different timing scenarios and results are possible:

1. If EPA approves any State-adopted site-specific criteria before promulgation of the final CTR is published, then the EPA Administrator may make a finding, in that final rule that it will be unnecessary to promulgate criteria for the approved site-specific pollutants and associated water bodies.
2. If EPA disapproves any State-adopted site-specific criteria, the proposed statewide criteria contained in the CTR would apply for those pollutants and associated water bodies instead of the site-specific criteria.
3. However, if EPA promulgates statewide federal criteria as proposed in the CTR, prior to a decision on any State-adopted site-specific criteria, the more stringent of the two criteria would be used for water quality programs. Both federal and State water quality programs must be satisfied, and applications of the more stringent of the two criteria would satisfy both. CTR preamble at pg. 42165.

Thus, the only way less stringent site specific criteria can be used for regulatory relief is if those criteria are approved by EPA prior to the publication of the final CTR. Otherwise, either the CTR or the more stringent of the two (CTR vs. site-specific) criteria apply.

One final note regarding site-specific criteria is that the Preamble to the CTR restricts the ability to use native aquatic life as a way to set site-specific criteria. Instead of allowing a discharger to substitute local species from the receiving waters into which it discharges, the Preamble only allows a discharger to supplement the eight specified families of aquatic life required for criteria development with the addition of native species.<sup>(\*9)</sup> It is doubtful whether this requirement will aid dischargers who are seeking regulatory relief.

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(\*1) This cost trigger is \$200 per toxic pounds-equivalent for a facility under the low-end scenario, and \$500 per toxic pounds-equivalent for a category of dischargers under the high-end scenario, See EA at pg. 4.

(\*2) In addition, pollutant load I reductions would not be calculated or credited for any pollutant for which an alternative regulatory approach was pursued. Id.

(\*9) "A minimum data set of eight specified families is required for criteria development (details are given in the 1985 Guidelines, page 22). If the eight specific families are intended to be representative of a wide spectrum of aquatic life. For this reason it is not necessary that the specific organisms tested be actually present in the water body. States may develop site-specific criteria using native species, provided that the broad spectrum represented by the eight families is maintained. All aquatic organisms and their common uses are meant to be considered, but not necessarily protected, if relevant data are

available." CTR Preamble at pg. 42168.

Response to: CTR-004-008

EPA disagrees with this comment. Regarding this commenter's discussion as to how the CTR may relate to State-adopted site-specific criteria, See response to CTR-016-002.

EPA disagrees with the part of this comment which suggests that the preamble to the proposed CTR restricts the use of native aquatic species in setting site-specific criteria. The commenter correctly quotes the preamble to the proposed CTR, however it appears that there must be a misunderstanding on the commenter's part regarding the quoted language. The commenter mistakenly assumes that native species may only be used to "supplement", rather than to "substitute" for species identified by EPA. It has been EPA's consistent position, however, that states may use native species rather than species identified by EPA, provided they do so within the framework of EPA's guidance (which requires the use of a broad spectrum of species, represented by eight families of species), in setting ambient water quality criteria. See Water Quality Standards Handbook: Second Edition (U.S. EPA-823-B-94-005a, August 1994), Chapter 3 (esp section 3.7); "Summary of Revisions to Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses" (50 Fed.Reg. 30792, July 29, 1985).

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Comment ID: CTR-005-008a  
Comment Author: Novato Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/23/97  
Subject Matter Code: C-24 Site Specific Criteria  
References:  
Attachments? Y  
CROSS REFERENCES C-21

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Comment: 7. Separate, scientifically defensible, reasonably achievable aquatic life criteria for copper should be adopted for San Pablo Bay in the vicinity of the District's discharge, or alternatively EPA should state in the Preamble that the Regional Board should: (1) allow a dilution credit for the District based on modeling studies; and (2) apply metals translator determined based on EPA procedures from the results of the Regional Monitoring Program. To comply with the Clean Water Act and EPA regulations, EPA should consider specific water bodies. To fulfill the spirit of Presidential Executive Order 12866 and the requirements of the Unfunded Mandates Reform Act and the Regulatory Flexibility Act, EPA should evaluate regulatory alternatives based on an analysis of costs and benefits. Based on the analysis of costs and benefits performed by the District (see Attachment 1), EPA should either adopt the criteria that is currently achieved, or alternatively specify implementation criteria that will allow the current discharge to continue. The District has performed dilution studies (see Attachment 2) and performed reasonable potential analyses using dilution and metals translators (see Attachments 3 and 4). These show that with the use of these implementation provisions, the proposed criteria can be achieved in-stream. Without EPA specifying that dilution studies and metals translators should be utilized in the District's case, it is possible that the CTR could impose enormous costs on the District (and the small entities it serves) without providing any environmental benefit. In that case, the CTR would be inconsistent with the Clean Water Act, EPA regulations, Presidential Executive Order 12866, the

Unfunded Mandates Reform Act and the Regulatory Flexibility Act.

Response to: CTR-005-008a

EPA disagrees with the commenter's request that EPA either adopt site-specific copper criteria for San Pablo Bay or state in the preamble that the Regional Board should allow dilution credit and application of a metal translator for the commenter's discharge.

In support of its request for the adoption of "scientifically defensible, reasonably achievable aquatic life criteria for copper" (emphasis added), the commenter has submitted its own analysis of costs and benefits. EPA has conducted an analysis of costs and benefits for this rule pursuant to Executive Order 12866 (see discussion in preamble to final rule); however, the criteria themselves are not based on economic considerations. In accordance with 40 CFR 131.11, criteria must be based on sound scientific rationale and must protect the designated use. There is no provision for EPA to consider the attainability or the scientific validity of the criteria with regard to specific dischargers or class of dischargers in adopting ambient water quality criteria in the CTR. Economic factors may be considered in designating uses (40 CFR 131.10); however, they may not be used to justify criteria which are not protective of those uses.

That being said, it should nevertheless be understood that EPA does support State adoption of site-specific criteria. As explained in the preamble to the proposed CTR, and further discussed in the response to CTR-016-002, EPA will work with the State to approve acceptable State-adopted criteria (including site-specific criteria) and intends to stay the CTR when EPA has approved such State criteria. In the meantime, in the absence of such criteria for aquatic life for copper in waters of San Francisco Bay, with salinity greater than 5 ppt, EPA is promulgating criteria based on EPA's section 304(a) national marine water copper aquatic life criterion, which is consistent with the requirements of the CWA. (40 CFR Section 131.11(b).) See also responses to CTR-016-001 and -002.

Regarding the suggestion that EPA specify the use of dilution and metals translators for this discharger, EPA disagrees. With the exception of compliance schedules, the CTR does not include implementation provisions; the CTR is promulgated to add numeric criteria for toxic pollutants where they did not exist. The State may address these issues in a separate implementation plan, which it is currently developing. ("Policy for implementation of Toxics Standards for Inland surface Waters, Enclosed Bays and Estuaries of California", released for public comment, September 11, 1997.)

Finally, regarding the commenter's assertion that the CTR could be inconsistent with Executive Order 12866, the Regulatory Flexibility Act and the Unfunded Mandates Reform Act see the discussion of EPA's compliance with these requirements in the preamble to the final rule.

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Comment ID: CTR-008-002  
Comment Author: San Luis&Delta-Mendota  
Document Type: Water District  
State of Origin: CA  
Represented Org:  
Document Date: 09/15/97  
Subject Matter Code: C-24 Site Specific Criteria  
References:  
Attachments? N

## CROSS REFERENCES

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Comment: The San Luis & Delta-Mendota Water Authority has entered into a Use Agreement with the Bureau of Reclamation for discharge of drainage water through a portion of the San Luis Drain to the San Joaquin River. A consensus letter to the Central Valley Regional Water Quality Control Board signed November 3, 1995, discussed the selenium water quality objectives in the San Joaquin River, Mud Slough, Salt Slough and wetland channels. The letter states "Please note that the parties have not reached a consensus on the appropriate long-term water quality objectives. However, the parties have committed to participate in a cooperative review process by which to evaluate any new scientific information relative to the subject." This letter was signed by the San Luis & Delta-Mendota Water Authority, the U.S. Bureau of Reclamation, the U.S. Environmental Protection Agency, and the U.S. Fish and Wildlife Service.

The proposed California Toxics Rule should not be adopted without adequately addressing the difference for high-sulfate waters. The Rule should also not be adopted if it undercuts EPA's commitment to the cooperative review of appropriate long-term standards in the San Joaquin River Basin.

Response to: CTR-008-002

EPA disagrees with this comment. Concerning future review of standards in the San Joaquin River Basin, that course of action is in no way precluded by the CTR. As explained in the preamble to the proposed CTR, and further discussed in the response to CTR-016-002, EPA will work with the State to approve acceptable State-adopted criteria (including site-specific criteria) and to stay the CTR where such State criteria are in effect. In the case of the San Joaquin River basin, EPA is committed to cooperative review of site-specific standards. Moreover, where site-specific criteria have already been adopted by the State in accordance with State law, but not yet acted upon by EPA, and those criteria are more stringent than applicable CTR criteria, those are the controlling criteria for CWA purposes within the State even without a stay of the applicable CTR criteria and are thus implementable by the State. (This would not be affected by the "Alaska Rule" which EPA proposed July 9, 1999, 64 Fed.Reg. 37072. See p. 37076.) This is the case with the selenium criterion adopted by the Central Valley Regional Board for Mud and Salt Sloughs and some adjacent basin waters in the Board's 1996 Basin Plan amendment. Since the State must use the most stringent criteria in effect for its water quality programs, the State may use this site-specific selenium criterion notwithstanding the CTR selenium criterion, thus the commenter's concerns should have no practical effect.

EPA has reviewed the information provided concerning the effect of high-sulfate waters on the toxicity of selenium to the extent it applies in the referenced waters. EPA concludes, based on information provided by the U.S. Fish and Wildlife Service (FWS), that this comment provides no basis for changing the numeric selenium criteria contained in the CTR. The letter of October 10, 1997, from Wayne S. White, Field Supervisor, FWS, to Diane Frankel, EPA, responds to the information provided with this comment. (The FWS letter is itself included as a comment on the proposed CTR in the administrative record.) In summary, the FWS letter says that most of the references relied on by this commenter suffer from an inability to transfer laboratory results to the field. They are based on the real but simplified interference between selenate and sulfate. They use relatively high levels of sulfate which are not unrealistic in themselves; however, the reduction in selenium bioaccumulation from selenate that they measure is not elimination of bioaccumulation from that form of selenium. Also, the results apply only to the selenate form of selenium. The other forms of selenium are far more bioaccumulative than selenate, are free of any interference from sulfate and, over time, come to dominate the bioaccumulation process.

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Comment ID: CTR-009-003  
Comment Author: City of Thousand Oaks  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: C-24 Site Specific Criteria  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: The City is concerned that any site specific objectives have to be implemented through federal rulemaking. The EPA was quite explicit in advising both the State and the regulated community not to expect prompt response from EPA on such requests. The State has a number of watershed projects underway in conjunction with EPA. The expressed lack of potential to ever see the implementation of site-specific requirements based upon the most representative and expansive scientific database for a given watershed have a chilling effect on these efforts. This would be extremely unfortunate because EPA's goal of "place-based" management approaches will suffer a significant set-back in California. Millions of dollars spent on good science to develop the most cost-effective local water quality solutions, may be for naught. This is an unintended negative outcome that the Agency surely does not desire. The City recommends that the final CTR Rule explicitly provide that site specific objectives and requirements for criteria included in the rule can be accomplished through Basin Plan Amendments approved by SWRCB and EPA. Given the sheer size and diversity of California's watersheds and receiving waters, the most effective way to implement appropriate water quality controls is through watershed-specific characterizations implemented by the Regional Boards. Without the ability to affect site-specific objectives in this manner, its tool is undermined if not negated.

Response to: CTR-009-003

EPA disagrees with this comment. We believe that the commenter misunderstood the cautionary language that was part of the proposed rule. The CTR does not preclude state adoption of criteria after the CTR has been promulgated. As EPA stated in the preamble to the proposed CTR, when the State has completed its own process, and EPA approves the State's new or revised criteria, EPA intends to stay the CTR. Similarly, if the State adopts site-specific criteria (including site-specific Basin Plan criteria adopted by Regional Boards which have completed the State review and adoption process), and EPA has approved them based on their individual merits, EPA intends to stay that portion of the CTR that applies more general criteria to the specific site. Each individual stay on a site-specific basis would require federal rulemaking on a case-by-case basis, and generally require more detailed effort on the Agency's part than a statewide stay.

Moreover, it is possible that State-adopted criteria could become effective for CWA purposes within the State even prior to EPA approval or rulemaking, although this would change if a rule that EPA has recently proposed is promulgated as proposed. The "Alaska Rule," 64 Fed.Reg. 37072, July 9, 1999. Until the Alaska Rule goes final, the State could adopt new or revised standards which are more stringent than the CTR, and those standards would be effective for CWA purposes within the state without any EPA action. Moreover, prior to a final Alaska Rule, the State could adopt statewide standards, and if EPA approved those standards and stayed the CTR based on them, then subsequent site-specific criteria would apply within the State when adopted by the State without requiring additional EPA approval or

rulemaking. If the Alaska Rule becomes final as proposed, however, regardless of whether the CTR has been stayed, only state-adopted criteria which are more stringent than the otherwise applicable standards could be applied within the State, prior to EPA approval of those standards.

EPA further disagrees with any suggestion that the State itself could, in the future, modify CTR criteria. State adoption of site-specific criteria (including site-specific criteria adopted by the Regional Board which have completed the State adoption process) is a separate State action, under State law, which does not modify federal criteria. It would be up to EPA to modify the CTR to "make way" for the State's criteria, once those criteria have been approved by EPA. As discussed above, if the State were to adopt criteria that were more stringent than applicable CTR criteria, those criteria could be effective for CWA purposes within the State under State law, prior to EPA approval of such criteria or modification of the CTR.

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Comment ID: CTR-009-006a  
Comment Author: City of Thousand Oaks  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: C-24 Site Specific Criteria  
References:  
Attachments? Y  
CROSS REFERENCES G-02

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Comment: With respect to the provisions in the proposed rule regarding compliance schedules and site-specific objective development and approval/implementation, the City requests verification that these, and all provisions, in the proposed rule apply only to those constituents for which this rule proposes criteria.

Response to: CTR-009-006a

EPA agrees with this comment. The implementation measures contained in the CTR apply to the criteria contained in the rule.

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Comment ID: CTR-010-001  
Comment Author: Save San Francisco Bay Assoc.  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-24 Site Specific Criteria  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: EPA's proposed California Toxics Rule is extremely disturbing because it significantly

weakens standards for numerous pollutants of concern in San Francisco Bay. Standards for more than half of the pollutants of concern identified by the S.F. Estuary Project will be weakened, including dioxin, PCB, mercury, PAHs, and chlordane. These pollutants were found in elevated levels in Bay fish by the S.F. Regional Water Board's study on contaminants in fish and resulted in the fish consumption advisory put out by Cal-EPA. Research conducted by Save S.F. Bay Association found people eating two to three times the amount of Bay fish considered safe. EPA's proposal will make this situation much worse and result in higher exposure levels to thousands of people. Moreover, pollution levels for a number of other pollutants will significantly increase, such as lead, copper, zinc, fluoranthene, and many others.

Response to: CTR-010-001

EPA disagrees with this comment. See response to CTR-002-003, which responds in detail to specific concerns regarding pollutant increases in San Francisco Bay, CTR-016-002, which discusses San Francisco Bay Basin Plan criteria which will not be superceded by the final CTR, and CTR-002-002a, which responds to specific concerns regarding fish consumption.

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Comment ID: CTR-011-001b

Comment Author: City of Simi Valley

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-24 Site Specific Criteria

References: Letter CTR-011 incorporates by reference letters CTR-027 and CTR-034

Attachments? Y

CROSS REFERENCES C-13

E-01d

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Comment: The City of Simi Valley discharges approximately 10 million gallons per day (mgd) of tertiarytreated wastewater (as well as municipal storm water) to the Arroyo Simi, an effluent dependent water body. Through much of the year, Arroyo Simi is dry several miles downstream from the City. The Arroyo Simi Characterization Report, completed by the City in 1995, concluded that the arroyo does not support a significant fishery, and observed only arroyo chub, mosquito fish and blunt-nosed minnow in the stream. Although designated as a potential municipal water supply in the Basin Plan, the arroyo waters are not used for municipal purposes. Effluent monitoring are limited, but available data indicate that the City's discharge may have a reasonable potential to exceed the proposed aquatic life criteria for several metals and the proposed human health criteria for several carcinogens.

Since Simi Valley is largely a residential community with supporting commercial development and little industry, and since the City already has an effective pretreatment program, it is unlikely that pollution prevention efforts would effectively reduce the problematic constituents. More likely, the City would be faced with end-of-pipe treatment controls such as lime precipitation and carbon adsorption to achieve the proposed criteria. The costs would undoubtedly be significant and the benefits relatively minor.

Under these circumstances, it appears reasonable to adopt criteria for Arroyo Simi, and similar effluent dependent waters, that are reasonably achievable without costly end-of-pipe controls and that reflect the actual use of the water (i.e., generally such waters are used for fishing or drinking). One way to address

this issue, consistent with the requirements of the Clean Water Act, would be to adopt specific human health criteria for Arroyo Simi and other effluent dependent streams based on a cancer risk coefficient of 10E-5 or in some cases 10E-4. Based on the limited data collected by the City, risk levels of 10E-4 would have to be adopted for dioxins, aldrin, alpha-BHC and 4,4,-DDD (see Table 1). Risk levels of 10E-5 would be sufficient for chloroform and endoslfan 11 (Id.).

Response to: CTR-011-001b

EPA disagrees that it must or should establish separate criteria for effluent dependent waters in this rule. In establishing water quality criteria for California, EPA is implementing section 303(c)(2)(B) of the CWA which requires adoption of criteria for all toxic pollutants for which EPA has issued criteria guidance and for which the discharge of such pollutants could reasonably be expected to interfere with the designated uses adopted by the state. EPA based the criteria contained in the CTR on its most recent national criteria guidance, which are designed to derive criteria that will be protective of aquatic life and human health. As long as a waterbody currently has a designated use for the protection of aquatic life and/or human health, application of the national 304(a) criteria are appropriate for fulfilling section 303(c)(2)(B). The CTR itself does not adopt uses or modify any uses previously adopted by the State. EPA presumes that the State has designated appropriate uses for its waters. Proposals to revise State-adopted uses must be brought to the State pursuant to its procedures for review of its water quality standards.

That being said, it should nevertheless be understood that EPA does support State adoption of site-specific criteria. As explained in the preamble to the proposed CTR, and further discussed in response to CTR-016-002, EPA will work with the State to approve acceptable State-adopted criteria (including site-specific criteria) and to stay the CTR where EPA has approved such State criteria.

With respect to risk level applicable to human health criteria when, as here, EPA establishes a water quality standard, EPA intends in its discretion to use a risk level of  $1 \times 10^{-6}$ , although the State may in its discretion choose another risk level for protection of human health, if the State has appropriately consulted the public. As discussed in responses to CTR-011-0001a and CTR-058-001 (Category C-13; Risk Level), EPA follows the risk-level policies of the affected state, when promulgating criteria as regulations.

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Comment ID: CTR-016-001  
Comment Author: San Francisco Bay RWQCB  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-24 Site Specific Criteria  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: Existing State Standards for the San Francisco Bay Region Previously Approved by US EPA

US EPA has asked people commenting on the proposed California Toxics Rule to identify any state-adopted numerical objectives that are still in effect following the decision in the Water Quality

Control Cases, Judicial Council Coordination Proceeding No. JC2610. The San Francisco Bay Regional Board was not a party to that lawsuit. Accordingly, there are several numerical objectives for toxic substances contained in the Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) that remain valid following the court ruling. They were adopted after a full public review process in 1986 and subsequently approved by US EPA in 1987. These objectives are contained in Tables 3-3 and 3-4 of the Basin Plan and are reproduced in an attachment to this letter.

Staff have reviewed these objectives and have determined that many are identical to those proposed in the California Toxics Rule except that the Region's existing standards are expressed as total recoverable and not in the dissolved form. Of those objectives that are not identical, ambient levels of arsenic, lead, and zinc are so far below both existing and proposed standards that the Regional Board does not consider modifying the values a priority. Levels of copper, nickel, mercury, and PAHs, however, are of greater concern in the Region.

In reviewing both the proposed and past US EPA criteria, we have consistently found that site-specific objectives are preferable to more generalized objectives for the complex, dynamic hydrogeological and biogeochemical systems in the San Francisco Bay Estuary. Generalized national criteria development processes seek to minimize the uncertainty of laboratory-based predictions (as in the selection of dissolved criteria) yet do not attempt to reduce any of the environmental uncertainties that arise when laboratory results are extrapolated to extremely complex and variable field conditions. As a result, some of the proposed national criteria are seriously under protective of beneficial uses in San Francisco Bay, while others are overprotective and will ultimately cause compliance problems for dischargers under the existing implementation policies contained in our Basin Plan.

As you are aware, the Regional Board has been working to develop objectives appropriate for San Francisco Bay for copper and nickel since 1988 and is in the process of conducting similar technical analyses for mercury, dioxins, and PAHS. Our technical assessment of the proposed selenium, mercury, and dioxin criteria is presented in greater detail below. The goal of this undertaking is to develop site-specific objectives and pollutant-specific implementation policies for San Francisco Bay.

Because EPA's proposed criteria do not consistently incorporate the most current environmental information, and, in particular do not reflect the complex conditions in the Estuary, we feel it is more appropriate to retain the existing numerical objectives in the Basin Plan and to update them through our regional planning process.

Accordingly, we ask that EPA revise the proposed rule and exclude the existing fresh and salt water pollutant objectives listed in the attachment for waters within the San Francisco Bay Region (as defined in the California Water Code). This exclusion would amend the table on "Water and use classification and Applicable Criteria" to read:

All waters within the San Francisco Bay Region that include a MUN use designation:

- \* -assigned all criteria in Columns B1 and B2-for all pollutants except for arsenic, chromium (VI), copper, mercury, nickel, silver, and zinc
- \* -and all criteria in Columns C1 and C2-for all pollutants except for arsenic, cadmium, chromium (VI), lead, mercury, nickel, silver, and zinc
- \* -and Column D-1-all pollutants

and

All waters within the San Francisco Bay Region that do not include a MUN use designation:

- \* assigned all criteria in Columns B1 and B2-for all pollutants except for arsenic, chromium (VI), copper, mercury, nickel, silver, and zinc
- \* and all criteria in Columns C1 and C2-for all pollutants except for arsenic, cadmium, chromium (VI), lead, mercury, nickel, silver, and zinc
- \* and Column D-2 - all pollutants

It should be noted that this recommended action will result in two saltwater standards for PAHs; one will be a 24-hour average value of 15.0 ppb (the existing objective), the other will be the chronic human health-based federal standard.

Response to: CTR-016-001

EPA has reviewed this comment, as well as the Water Quality Control Plan for the San Francisco Bay Region (Basin Plan), and its amendments, including the 1995 Basin Plan, which the comment addresses. As EPA explained in the preamble to the proposed CTR, EPA intended to amend the text of the final rule to provide that CTR criteria would not apply where there is a site-specific State criterion in effect, approved by EPA, which the State or others identify in comments on the proposed CTR. (62 Fed.Reg. 42165.) This comment has identified such criteria. Based on our review, and discussions with the San Francisco Bay RWQCB, we have determined that those standards for the San Francisco Bay Region for priority toxic substances contained in Tables 3-3 and 3-4 of the 1995 Basin Plan (Tables III-2A and B of the 1986 Basin Plan), are the same as those adopted by the State in 1986 and approved by EPA in 1987, and they remain in effect for those waters of San Francisco Bay where they are presently in effect following final promulgation of the CTR. EPA believes that these are still appropriate criteria values. CTR criteria will therefore not apply to those parameters and waters covered by these San Francisco Bay Region Basin Plan WQS. National Toxics Rule (NTR) criteria for cyanide (40 CFR 131.36(d)(10)) will also continue to apply since the CTR does not supersede the NTR, as it applies in California.

EPA furthermore disagrees that CTR should exclude any of the pollutants proposed in this comment for all waters of San Francisco Bay that have the listed use designations. There are waters of San Francisco Bay (waters of the South Bay below Dumbarton Bridge) for which the criteria addressed in this comment are simply not in effect under the 1995 Basin Plan. CTR criteria are therefore adopted for these waters, and there is no conflict among criteria, since the CTR is filling a gap, not superseding State criteria.

The CTR also applies to any estuarine waters of San Francisco Bay which became subject to different criteria in 1995 when the San Francisco Regional Board eliminated the previously-approved geographic boundary between waters subject to freshwater and saltwater criteria and instead adopted methods for determining, on a salinity basis, where freshwater and saltwater criteria would be applied in San Francisco Bay. Because EPA has not approved the 1995 Basin Plan amendments, and since the 1986 Basin Plan criteria which EPA did approve no longer apply to those waters, EPA adopting CTR criteria for those waters is necessary to implement CWA section 303(c)(2)(B). It is expected, however, that few permits will be affected by this application of CTR criteria.

EPA disagrees that the CTR should exclude all of the pollutant criteria as proposed in this comment. It is beyond the scope of this rule to pick and choose among the CTR criteria which shall apply to waters of

San Francisco Bay on any basis other than whether or not they are subject to an EPA-approved State-adopted criterion, as described above. (For example, under the 1995 Basin Plan, there is currently no criterion for copper in waters of San Francisco Bay with salinity greater than 5 ppt, and EPA therefore will adopt CTR saltwater copper criteria for those San Francisco Bay waters.) Thus, regarding the various pollutants specifically addressed by this commenter, EPA will identify, in the footnotes to section 131.38(b)(1), those criteria which do not supercede EPA-approved San Francisco Bay Region Basin Plan criteria which are presently in effect.

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Comment ID: CTR-016-002

Comment Author: San Francisco Bay RWQCB

Document Type: State Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24 Site Specific Criteria

References:

Attachments? Y

CROSS REFERENCES

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Comment: Development of New Standards by Regional Boards - Clarification of Federal Rulemaking

It is very clear in the proposed rule that it is EPA's intention to promulgate federal standards only where there is an absence of state standards, and that when the state has completed its own process, that EPA intends to stay the proposed rule. At the same time, however, the proposed rule contains the following cautionary language:

"If this proposed rule is still in effect, as with the State adoption of site-specific criteria, EPA would have to undertake rulemaking to make necessary changes to this rule .... EPA, however, cautions California and the public that promulgation of this federal rule removes most of the flexibility available to the State for modifying its standards on a discharger-specific or stream-specific basis. For example, variances and site-specific criteria development are actions sometimes adopted by states. These are optional policies under terms of the federal water quality standards regulation. Except for the water-effect ratio procedure for certain metals, EPA has not incorporated either optional policy, in general, in this proposed rulemaking, that is, EPA has not generally authorized State modifications of federal water quality standards. Each of these types of modifications will, in general, require federal rulemaking on a case-by-case basis to change the federal rule. Because of the time consuming nature of reviewing such requests, limited federal resources, and the need for the Agency to move into other priority program areas in establishing environmental controls, EPA alerts California and the public that a prompt Agency response is unlikely. The best course of action, if such provisions are desired, is for the State to adopt its own standards and take advantage, if it so chooses, of the flexibility offered by these optional provisions."

We interpret this language to mean that EPA is not authorizing a modification of the federal standards as part of this rulemaking (except through use of WERs). However, this language suggests that EPA also believes itself to be unable to state standards developed by Regional Boards in a timely manner. We must point out that the site-specific objectives setting process carried out by the Regional Boards in the State of California is not a "modification" of federal standards, but a complete, state standard setting process. Furthermore, the Regional Boards are required and authorized under the CWA and state law to

review and, as appropriate, consider modification of the promulgated standards as they apply to specific water bodies within each region as part of the triennial review process. In both cases, we feel very strongly that EPA is obligated to review state standards developed at the regional level in a timely manner. We also believe that EPA's intent to stay federal standards when the statewide objective setting process is complete should apply equally to state standards adopted by the Regional Boards.

Accordingly, we are asking that EPA specifically clarify its intent with respect to state standards developed by Regional Boards. In addition, we strongly recommend that EPA revise the proposed rulemaking to include a description of conditions under which EPA may initiate a stay of federal standards as part of this rulemaking, thereby alleviating the administrative burden of conducting federal rulemaking changes every time a new state standard is developed and approved.

Response to: CTR-016-002

EPA disagrees with this comment. We believe that the commenter misunderstood the cautionary language that was part of the proposed rule. The CTR does not preclude state adoption of criteria after the CTR has been promulgated. As EPA stated in the preamble to the proposed CTR, when the State has completed its own process, and EPA approves the State's new or revised criteria, EPA intends to stay the CTR. Similarly, if the State adopts site-specific criteria (including site-specific Basin Plan criteria adopted by Regional Boards which have completed the State review and adoption process), and EPA has approved them based on their individual merits, EPA intends to stay that portion of the CTR that applies more general criteria to the specific site. Each individual stay on a site-specific basis would require federal rulemaking on a case-by-case basis, and generally require more detailed effort on the Agency's part than a statewide stay.

Moreover, it is possible that State-adopted criteria could become effective for CWA purposes within the State even prior to EPA approval or rulemaking, although this would change if a rule that EPA has recently proposed is promulgated as proposed. The "Alaska Rule," 64 Fed.Reg. 37072, July 9, 1999. Until the Alaska Rule goes final, the State could adopt new or revised standards which are more stringent than the CTR, and those standards would be effective for CWA purposes within the state without any EPA action. Moreover, prior to a final Alaska Rule, the State could adopt statewide standards, and if EPA approved those standards and stayed the CTR based on them, then subsequent site-specific criteria would apply within the State when adopted by the State without requiring additional EPA approval or rulemaking. If the Alaska Rule becomes final as proposed, however, regardless of whether the CTR has been stayed, only state-adopted criteria which are more stringent than the otherwise applicable standards could be applied within the State, prior to EPA approval of those standards.

EPA notes that State-adopted criteria (including site-specific criteria) which are less stringent than CTR criteria may be approved by EPA and result in a stay of the CTR if such criteria are based on sound scientific rationale which ensures that designated uses will be protected.

EPA also disagrees with the suggestion that EPA include provisions in this CTR rule to allow EPA to use direct final rulemaking if it stays the CTR, or site-specific portions of the CTR, in the future. Since EPA cannot at this time predict what State criteria would replace CTR criteria when such stays are issued, EPA cannot predict whether such federal rulemakings might appropriately be adopted as direct final rules. Whether EPA meets the criteria for using direct final rulemaking in this context is a decision EPA will make when it undertakes such rulemaking.

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Comment ID: CTR-017-001  
Comment Author: Santa Ana River Discharger Ass  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-24 Site Specific Criteria  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: Thank you for the opportunity to provide comments on the recently promulgated California Toxics Rule. The members of the Santa Ana River Dischargers Association (SARDA) are especially appreciative of EPA's effort to review the site-specific water quality objectives (SSOs) proposed for our watershed.

The SSOs for cadmium, copper, lead and ammonia were developed jointly by state and federal regulators in 1992-93. During this period, the Regional Water Quality Control Board - Santa Ana Region held several public hearings to review the merits of the proposed SSOs. As part of the formal procedures to amend the Santa Ana River Basin Plan, the Regional Board received several documents providing scientific evidence that the SSOs would fully protect all designated beneficial uses including aquatic life.

EPA has received several copies of the final report for the Santa Ana River Use-Attainability Analysis. As direct participants in the design and methodology of the study, EPA received draft and final versions of all work papers and reports. In addition, another complete copy of the documents were submitted to the agency as part of the administrative record supporting the State Board decision to approve basin plan amendments adopting the SSOs.

Because the previous copies were submitted nearly four years ago, we believe it would be helpful to submit a new copy for the record. It is our sincere hope that these documents will facilitate EPA's review of the proposed SSOs.

Enclosed are the respective volumes which comprise the UAA Final Report. There are many other pages of written materials supporting the adoption of site-specific water quality objectives previously submitted to EPA and included in the State of California's formal administrative record on the basin plan amendments. If EPA desires additional copies of any of the other documents, SARDA would be pleased to re-submit them as well.

The SSOs proposed for the Santa Ana River are nearly identical to the water quality objectives EPA set forth in the California Toxics Rule. We in SARDA were pleased that EPA's scientists concur in the conclusion that water quality objectives based on dissolved metal concentrations would fully protect the Santa Ana River. If anything, it appears that the SSOs proposed within the UAA Final Report were conservative. Since then, EPA has sponsored new scientific research which corroborates the original UAA recommendations.

Because the California Toxics Rule uses the same approach as the UAA in setting water quality objectives for cadmium and copper, SARDA strongly supports the CTR objectives for those metals. We also agree with EPA's written statements acknowledging the binding character of organic carbon and the role it plays in rendering heavy metals non-toxic. We enthusiastically endorse the agency's decision to

include Water Effects Ratio as a formal factor to be considered when formulating water quality objectives. It will do much to adjust national criteria to local conditions.

Unlike copper and cadmium, the SSO for lead was based on EPA's "Most-Sensitive Species Methods." As such, SARDA believes that it is more appropriate to adopt the UAA-SSO rather than the CTR formula when setting water quality objectives for lead in the Santa Ana River. Therefore, we urge the agency to join the State Water Resources Control Board in approving the SSO for lead.

Since the UAA was completed, and the basin plan amended, the SARDA agencies have diligently implemented the final recommendations. When chlorine and ammonia were found to be contributing to toxicity in the river, dischargers constructed new facilities to significantly reduce the concentration of these pollutants. Today, SARDA members routinely pass their whole effluent toxicity tests. Annual instream bioassessments, conducted voluntarily by SARDA, consistently demonstrate that our effluent quality fully supports the designated beneficial use.

SARDA is also pleased to report that the concentrations of heavy metals remain well below permitted levels and are often significantly less than historical averages. The fear that SSOs would license widespread increases in pollution never came to pass.

We believe the Santa Ana River UAA was successful in developing more appropriate site-specific objectives as a result of EPA's direct participation in designing, conducting and reviewing the scientific inquiry. The other SARDA agencies join me in thanking EPA's staff for the considerable time and expertise they contributed to this extraordinary effort.

If EPA requires any additional materials, or wishes to discuss the documentation submitted in support of the proposed SSOs, please call me at (909) 797-5119. All of the SARDA agencies are prepared to assist in any way we can. Thank you again for the opportunity to comment on the California Toxics Rule.

Sincerely,

Chairman Santa Ana River Dischargers Association

Response to: CTR-017-001

EPA is pleased to hear the story of success in reducing the toxicity in the Santa Ana River. EPA also appreciates the strong support for the CTR criteria for cadmium and copper, which, as the commenter points out, are nearly identical to the SSOs adopted by the State for the Santa Ana River.

Concerning the site-specific criterion for lead in the Santa Ana River that has been adopted by the State, EPA appreciates the commenter's support of the site-specific criterion over the CTR criterion for protection of fresh water aquatic life. However, EPA has not yet approved this site-specific criterion, and in the absence of EPA-approved State-adopted site-specific criteria, EPA must promulgate CTR criteria to meet the requirements of CWA section 303(c)(2)(B). Nevertheless, where site-specific criteria have already been adopted by the State in accordance with State law, but not yet acted upon by EPA, and those criteria are more stringent than applicable CTR criteria, those are the controlling criteria for CWA purposes within the State even without a stay of the applicable CTR criteria and are thus implementable by the State. (This would not be affected by the "Alaska Rule" which EPA proposed July 9, 1999, 64 Fed.Reg. 37072. See p. 37076.) This is the case with the site-specific criterion for lead adopted by the State for the Santa Ana River. Since the State must use the most stringent criteria in effect for its water quality programs, the State may use this site-specific lead criterion notwithstanding the CTR fresh water

aquatic life criterion for lead, thus the commenter's concerns should have no practical effect.

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Comment ID: CTR-020-003

Comment Author: City of Stockton

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-24 Site Specific Criteria

References:

Attachments? Y

**CROSS REFERENCES**

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Comment: B. Site-Specific Modifications

EPA has indicated that it will not allow the state to approve site-specific modifications of the federal criteria regardless of the merit of the situation. The only notable exception is EPA's indication that amendment of these criteria may only be accomplished by a petition for rulemaking which amends the CTR. EPA's self-imposed limitation on CTR modification exacerbates the overly broad nature of the rule and arbitrarily inflicts wasteful expenditures of local resources on meeting objectives that have no actual environmental or public health need. The Agency is authorizing limited waivers to criteria compliance where it can be demonstrated that factors listed in 40 C.F.R. section 131.10(g) apply (e.g., natural conditions prevent attainment of uses). However, these waivers are very limited in scope, are rarely approved, and are not expected to provide relief to the typical circumstances that justify less restrictive criteria (e.g., exposure and organism sensitive assumptions are not relevant, warranting criteria recalculation).

The failure of EPA to build appropriate flexibility into the CTR is contrary to Presidential directives contained in the "Reinventing Environmental Regulation" issued in March 1995. By arbitrarily restricting the ability to modify criteria site-specifically (as outlined in detail in EPA's Water Quality Standards Handbook), EPA will maximize the economic impacts of this rulemaking rather than minimize the costs as required by applicable Executive Office directives and underlying regulatory provisions.

There is no legal or technical basis for restricting the modification of the Section 304(a) criteria. EPA has often referred to the ability to modify federal criteria as the means for ensuring that the criteria are appropriately applied. Similar to the "upset defense" that EPA was directed to include in nationwide effluent guidance to ensure that those requirements were not applied to inappropriate operational conditions, the Agency must grant the State of California the ability to modify the criteria for cause so that the criteria are not applied inappropriately. If this authority is not included in the rule, application of the CTR will clearly be overly broad and will exceed EPA's authority to establish appropriate water quality criteria.

Response to: CTR-020-003

EPA disagrees with this comment. We believe that the commenter misunderstood the cautionary language that was part of the proposed rule. The CTR does not preclude state adoption of criteria after the CTR has been promulgated. As EPA stated in the preamble to the proposed CTR, when the State has completed its own process, and EPA approves the State's new or revised criteria, EPA intends to stay the

CTR. Similarly, if the State adopts site-specific criteria (including site-specific Basin Plan criteria adopted by Regional Boards which have completed the State review and adoption process), and EPA has approved them based on their individual merits, EPA intends to stay that portion of the CTR that applies more general criteria to the specific site. Each individual stay on a site-specific basis would require federal rulemaking on a case-by-case basis, and generally require more detailed effort on the Agency's part than a statewide stay.

Moreover, it is possible that State-adopted criteria could become effective for CWA purposes within the State even prior to EPA approval or rulemaking, although this would change if a rule that EPA has recently proposed is promulgated as proposed. The "Alaska Rule," 64 Fed.Reg. 37072, July 9,1999. Until the Alaska Rule goes final, the State could adopt new or revised standards which are more stringent than the CTR, and those standards would be effective for CWA purposes within the state without any EPA action. Moreover, prior to a final Alaska Rule, the State could adopt statewide standards, and if EPA approved those standards and stayed the CTR based on them, then subsequent site-specific criteria would apply within the State when adopted by the State without requiring additional EPA approval or rulemaking. If the Alaska Rule becomes final as proposed, however, regardless of whether the CTR has been stayed, only state-adopted criteria which are more stringent than the otherwise applicable standards could be applied within the State, prior to EPA approval of those standards.

EPA further disagrees with any suggestion that the State itself could, in the future, modify CTR criteria. State adoption of site-specific criteria (including site-specific criteria adopted by the Regional Board which have completed the State adoption process) is a separate State action, under State law, which does not modify federal criteria. It would be up to EPA to modify the CTR to "make way" for the State's criteria, once those criteria have been approved by EPA. As discussed above, if the State were to adopt criteria that were more stringent than applicable CTR criteria, those criteria could be effective for CWA purposes within the State under State law, prior to EPA approval of such criteria or modification of the CTR.

With respect to EPA's compliance with applicable Executive Office directives see the preamble to the final rule.

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Comment ID: CTR-021-007  
Comment Author: LeBoeuf, Lamb, Green & MacRae  
Document Type: Local Government  
State of Origin: CA  
Represented Org: City of Sunnyvale  
Document Date: 09/25/97  
Subject Matter Code: C-24 Site Specific Criteria  
References: Letter CTR-021 incorporates by reference letter CTR-035  
Attachments? Y  
CROSS REFERENCES

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Comment: It is with a sense of reluctance that Sunnyvale joins in CASA/Tri-TAC's adverse comments on the CTR and the EA, and Sunnyvale does so in a spirit of constructive criticism and with an expectation that the Agency will make the necessary adjustments in its approach towards the CTR before the final rule is promulgated. In addition, in the same spirit and with the same expectation, Sunnyvale would like to make the following points on its own behalf:

4. Need for Expedited Approval of Site-Specific objectives. Sunnyvale is dismayed by the seemingly intransigent position taken by EPA in the preamble to the CTR to the effect that EPA is unlikely to act expeditiously to stay the application of CTR-based criteria with regard to water bodies in California which are covered by future site-specific objectives adopted by California water pollution control agencies and approved by EPA once the CTR becomes a final rule. The Agency's position is inconsistent with its otherwise reasonable and laudable support for local water quality planning efforts. It seems to Sunnyvale that EPA should reward a local planning effort which has complied with all EPA guidance and has produced site-specific water quality objectives which are more appropriate to the affected water body than the state and nationwide criteria in the CTR. What is the reason for EPA's attitude?

EPA has in the past threatened to delay approving state adopted site-specific objectives once a federal promulgation is in place. These threats are generally made when EPA is attempting to urge a state or states to develop state criteria in order to avoid a federal promulgation. However, the principal policy reason to take this position disappears as soon as the statutorily-required criteria have been put in place by EPA. Thereafter, EPA should show support for California's efforts to make appropriate adjustments in EPA's CTR criteria, especially where the adverse impacts of the CTR are being mitigated by the regulatory relief afforded by the State's efforts.

If EPA is concerned about the resources required to go through notice-and-comment rulemaking before it can stay the effect of the CTR, then Sunnyvale urges EPA to seek means to simplify and streamline the EPA rulemaking process. We urge the Agency to apply the lessons learned in the Agency's implementation of the air program in this situation. A proposal by EPA in the final CTR to go directly to final rulemaking to stay the effect of particular CTR criteria would be justified where, in the future, the State and the Agency have complied with the exhaustive EPA guidance on development of scientifically-justifiable site specific water quality objectives. A simple notice of final rulemaking should be amply sufficient to comply with the requirements of the Administrative Procedures Act. We urge the Agency to use the creative resources of the office of General Counsel to explore the merits of this suggestion.

Unless EPA is able to act expeditiously to approve newly-developed site specific criteria, the Agency could be the bottleneck in implementing some highly desirable place-based watershed management planning. Please reconsider your position in this matter in the final rulemaking on the CTR.

Response to: CTR-021-007

EPA disagrees with this comment. We believe that the commenter misunderstood the cautionary language that was part of the proposed rule. The CTR does not preclude state adoption of criteria after the CTR has been promulgated. As EPA stated in the preamble to the proposed CTR, when the State has completed its own process, and EPA approves the State's new or revised criteria, EPA intends to stay the CTR. Similarly, if the State adopts site-specific criteria (including site-specific Basin Plan criteria adopted by Regional Boards which have completed the State review and adoption process), and EPA has approved them based on their individual merits, EPA intends to stay that portion of the CTR that applies more general criteria to the specific site. Each individual stay on a site-specific basis would require federal rulemaking on a case-by-case basis, and generally require more detailed effort on the Agency's part than a statewide stay.

Moreover, it is possible that State-adopted criteria could become effective for CWA purposes within the State even prior to EPA approval or rulemaking, although this would change if a rule that EPA has recently proposed is promulgated as proposed. The "Alaska Rule," 64 Fed.Reg. 37072, July 9,1999. Until the Alaska Rule goes final, the State could adopt new or revised standards which are more stringent

than the CTR, and those standards would be effective for CWA purposes within the state without any EPA action. Moreover, prior to a final Alaska Rule, the State could adopt statewide standards, and if EPA approved those standards and stayed the CTR based on them, then subsequent site-specific criteria would apply within the State when adopted by the State without requiring additional EPA approval or rulemaking. If the Alaska Rule becomes final as proposed, however, regardless of whether the CTR has been stayed, only state-adopted criteria which are more stringent than the otherwise applicable standards could be applied within the State, prior to EPA approval of those standards.

EPA also disagrees with the suggestion that EPA include provisions in this CTR rule to allow EPA to use direct final rulemaking if it stays the CTR, or site-specific portions of the CTR, in the future. Since EPA cannot at this time predict what State criteria would replace CTR criteria when such stays are issued, EPA cannot predict whether such federal rulemakings might appropriately be adopted as direct final rules. Whether EPA meets the criteria for using direct final rulemaking in this context is a decision EPA will make when it undertakes such rulemaking.

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Comment ID: CTR-026-006  
Comment Author: Cal. Department of Fish & Game  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-24 Site Specific Criteria  
References:  
Attachments? N  
CROSS REFERENCES

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#### Comment: 6. SITE SPECIFIC CRITERIA

The DFG does not object to the development of site-specific criteria provided that they are developed utilizing sound scientific methodologies. The proposed rule indicates that EPA will be reviewing several of the existing site-specific criteria already established in various Basin Plans throughout the State to determine consistency with the proposed rule. The DFG is very interested in participating in the development of site-specific criteria and request that we be included in reviewing any new site-specific proposals or revisiting existing criteria, if that is deemed necessary.

Response to: CTR-026-006

EPA has reviewed and approved some site-specific criteria already established in various Basin Plans throughout the State. The relationship between the CTR and site-specific criteria for the Sacramento River; the San Joaquin River; and the Grassland Water District, San Luis National Wildlife Refuge, and Los Banos State Wildlife Refuge are described in the preamble to the proposed CTR. (62 Fed.Reg. 42165-42166.) For the San Francisco Bay Region, see the response to CTR-016-001. EPA has not acted on any State-adopted site-specific criteria since the proposed CTR was published.

The comment author suggests that the California DFG participate in the development of any new and revised site-specific criteria. We agree with that comment and assume that California's normal process will provide for that participation.

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Comment ID: CTR-032-002e  
Comment Author: Las Gallinas Val. Sanitary Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-24 Site Specific Criteria  
References: Letter CTR-032 incorporates by reference letter CTR-035  
Attachments? N  
CROSS REFERENCES G-01; C-22; G-09; C-24a; K; G-04; G-05; G-02

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Comment: Regulatory Flexibility and Relief

The District supports EPA's use of "sound science" and current data in developing the proposed criteria in the California Toxics Rule (CTR). The District strongly supports language in the Preamble that references and endorses recommendations of the State Task Forces including use in permitting of:

\* reasonable potential analyses \* dissolved metals criteria \* translators \* water effects ratios \* site specific objectives \* innovative TMDL processes such as effluent trading \* performance based interim limits \* chronic and acute mixing zones, and \* compliance schedules in NPDES permits.

Response to: CTR-032-002e

EPA appreciates this comment which provides general support for the CTR process and for EPA's ongoing efforts to support State water quality standards development.

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Comment ID: CTR-032-006b  
Comment Author: Las Gallinas Val. Sanitary Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-24 Site Specific Criteria  
References: Letter CTR-032 incorporates by reference letter CTR-035  
Attachments? N  
CROSS REFERENCES C-01a

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Comment: Mercury Criteria

The District supports the proposed revised human health criteria for mercury based on updated IRIS information. The District also supports EPA's decision (CTR P. 42180) not to apply the bioaccumulation factor (BAF) developed for the Great Lakes Initiative to the CTR mercury criteria. We agree that mercury methylation rates vary widely and are not well understood, particularly for amalgam related mercury. We believe that adoption of a national BAF under consideration as part of the "Mercury Study Report to Congress: SAB Review Draft" is inappropriate for California, particularly for the complex San Francisco Bay system. CDA recommends that EPA direct the State to develop a site specific objective

(SSO) for mercury for San Francisco Bay based on a site specific BAF and data on natural cleanup processes and methylation processes. The proposed CTR criteria should serve as interim criteria until the SSO is developed and adopted.

Response to: CTR-032-006b

EPA appreciates the support by this commenter of the human health criteria for mercury contained in the CTR. To the extent that this commenter goes further and comments on the criteria that might result in the future from EPA's Report to Congress on Mercury (December, 1997), EPA disagrees. EPA does not find it appropriate at this time to direct the State to develop site-specific criteria for mercury for San Francisco Bay (or any other specific waterbody), especially if the purpose is to forestall the application of national criteria that are not yet even defined. That decision is wholly within State authority, however; should they choose to develop site-specific criteria, these criteria would be subject to EPA review and approval based on their individual scientific validity.

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Comment ID: CTR-035-014  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-24 Site Specific Criteria  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: B. Criteria

pp. 42165-42166 -- Site-Specific Criteria We support the process described in the Preamble, whereby the State through its Regional Water Quality Control Boards (RWQCBs) may adopt site-specific criteria as amendments to Basin Plans, which are then subject to approval by the State Water Resources Control Board (SWRCB) and the State's Office of Administrative Law. We strongly urge EPA to make timely determinations for all site-specific criteria currently under review to ensure that appropriate action is taken by EPA before the CTR becomes a final regulation, as well as to conduct timely reviews for those site-specific criteria that may be submitted for approval in the future. We suggest that it is possible to simplify the regulatory process for staying the effect of the final CTR as regards any pollutant for which a site-specific objective has been developed by the State and approved by EPA. If EPA were to state in the final rule that it proposes to approve without further notice and comment any site-specific objective which has gone through the State and EPA approval process, we see no need for additional notice and comment before EPA publishes notice of final rulemaking to modify the CTR. This process is similar to the so-called "parallel processing" procedure used by EPA's air program with respect to the approval of amendments to State Implementation Plans.

We do, however, object to the statement in the Preamble regarding the adoption of site-specific criteria after the CTR becomes final:

However, if EPA promulgates statewide federal criteria as proposed in this rule, prior to a decision on any State-adopted site-specific criteria, the more stringent of the two criteria would be used for water

quality program. Both federal and State water quality programs must be satisfied, and application of the more stringent of the two criteria would satisfy both.

Based on EPA's own guidance, we do not believe that it is necessary for EPA to select the more stringent of the two criteria, if the site-specific criteria is less stringent but has been developed in a scientifically defensible manner (EPA, 1994b). In addition, this policy directly contradicts the assumption made in the draft Economic Analysis that an "alternative regulatory approach" would be pursued, including the use of site-specific criteria. A discharger would not pursue the development of site-specific criteria as a regulatory relief option, as was assumed in the Economic Analysis for the CTR, if EPA's policy is to approve only more stringent site-specific criteria. EPA's policy would expressly prohibit site-specific objectives from providing any relief from compliance costs. We therefore recommend that EPA include a policy in the CTR indicating that the Agency will approve site-specific criteria submitted by the State that are scientifically defensible, even if they are less stringent than CTR criteria, particularly if they are necessary to avoid excessive compliance costs.

Response to: CTR-035-014

EPA disagrees with this comment. We believe that the commenter misunderstood the cautionary language that was part of the proposed rule. The CTR does not preclude state adoption of criteria after the CTR has been promulgated. As EPA stated in the preamble to the proposed CTR, when the State has completed its own process, and EPA approves the State's new or revised criteria, EPA intends to stay the CTR. Similarly, if the State adopts site-specific criteria (including site-specific Basin Plan criteria adopted by Regional Boards which have completed the State review and adoption process), and EPA has approved them based on their individual merits, EPA intends to stay that portion of the CTR that applies more general criteria to the specific site. Each individual stay on a site-specific basis would require federal rulemaking on a case-by-case basis, and generally require more detailed effort on the Agency's part than a statewide stay.

Moreover, it is possible that State-adopted criteria could become effective for CWA purposes within the State even prior to EPA approval or rulemaking, although this would change if a rule that EPA has recently proposed is promulgated as proposed. The "Alaska Rule," 64 Fed.Reg. 37072, July 9, 1999. Until the Alaska Rule goes final, the State could adopt new or revised standards which are more stringent than the CTR, and those standards would be effective for CWA purposes within the state without any EPA action. Moreover, prior to a final Alaska Rule, the State could adopt statewide standards, and if EPA approved those standards and stayed the CTR based on them, then subsequent site-specific criteria would apply within the State when adopted by the State without requiring additional EPA approval or rulemaking. If the Alaska Rule becomes final as proposed, however, regardless of whether the CTR has been stayed, only state-adopted criteria which are more stringent than the otherwise applicable standards could be applied within the State, prior to EPA approval of those standards.

EPA further disagrees with any suggestion that the State itself could, in the future, modify CTR criteria. State adoption of site-specific criteria (including site-specific criteria adopted by the Regional Board which have completed the State adoption process) is a separate State action, under State law, which does not modify federal criteria. It would be up to EPA to modify the CTR to "make way" for the State's criteria, once those criteria have been approved by EPA. As discussed above, if the State were to adopt criteria that were more stringent than applicable CTR criteria, those criteria could be effective for CWA purposes within the State under State law, prior to EPA approval of such criteria or modification of the CTR.

EPA notes that State-adopted criteria (including site-specific criteria) which are less stringent than CTR

criteria may be approved by EPA and result in a stay of the CTR if such criteria are based on sound scientific rationale which ensures that designated uses will be protected.

EPA also disagrees with the suggestion that EPA include provisions in this CTR rule to allow EPA to use direct final rulemaking if it stays the CTR, or site-specific portions of the CTR, in the future. Since EPA cannot at this time predict what State criteria would replace CTR criteria when such stays are issued, EPA cannot predict whether such federal rulemakings might appropriately be adopted as direct final rules. Whether EPA meets the criteria for using direct final rulemaking in this context is a decision EPA will make when it undertakes such rulemaking.

This commenter also urged EPA to act, prior to finalizing the CTR, to approve or disapprove any State-adopted site-specific criteria which had been submitted to EPA but EPA had not yet acted upon. This has not been possible, due to the focus of resources on the CTR itself. However, EPA reiterates that any criterion adopted by the State, and currently in effect under State law, which is more stringent than the comparable CTR criterion, could be used for water quality programs within the State without any stay of the CTR.

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Comment ID: CTR-037-001a

Comment Author: Hampton Roads Sanitation Dist.

Document Type: Sewer Authority

State of Origin: VA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24 Site Specific Criteria

References:

Attachments? N

CROSS REFERENCES G-01

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Comment: 1. The rule proposes that the more stringent of site-specific and national criteria be used in determining reasonable potential to exceed water quality standards and in development of limits where site-specific criteria have not yet been established. This proposal ignores the scientific basis of a site-specific criterion and that such a criterion is specifically more relevant and appropriate than a national criterion if derived correctly. EPA has acknowledged that national criteria can be more stringent than necessary to protect designated uses because they are designed to protect a wide variety of surface waters, and that a site-specific criterion can be sufficiently protective while being less stringent than a national criterion (Water Effect Ratio Guidance, 1994). This rule is arbitrarily dismissing the use of site-specific criteria which may be more technically defensible than national criteria, while being protective.

Response to: CTR-037-001a

EPA disagrees with this comment. EPA notes that State-adopted criteria (including site-specific criteria) which are less stringent than CTR criteria may be approved by EPA and result in a stay of the CTR if such criteria are based on sound scientific rationale which ensures that designated uses will be protected. The CTR does not preclude state adoption of criteria, including criteria which may be less stringent than CTR criteria. State-adopted criteria (including site-specific criteria) which are less stringent than CTR criteria may be approved by EPA and result in a stay of the CTR if such criteria are based on sound scientific rationale which ensures that designated uses will be protected.

To the extent that this commenter is concerned that the CTR criteria supercede existing State-adopted site-specific criteria which are less stringent than CTR criteria and have not been approved by EPA, EPA agrees that this is the effect of adoption of the CTR, but disagrees that this provides a basis for "promulgating around" such unapproved site-specific criteria. Because EPA has not completed its evaluation of these criteria and EPA needs to have criteria in place to implement section 303(c)(2)(B), EPA has chosen to put in place criteria based on EPA's national section 304(a) criteria recommendations to most efficiently ensure protection for all California waters. EPA will then complete its review of site-specific criteria. To do otherwise would risk that coverage did not occur for some waters should EPA not find the site-specific value to be scientifically defensible. However, as stated in the preamble to the proposed CTR, EPA will make a determination on all State-adopted site-specific criteria which have been submitted to EPA for review. When EPA approves any new or revised State criteria, EPA intends to stay the CTR. It was not possible for EPA to make determinations on pending site-specific criteria prior to the final CTR.

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Comment ID: CTR-038-007

Comment Author: Sonoma County Water Agency

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24 Site Specific Criteria

References:

Attachments? Y

CROSS REFERENCES

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Comment: 6. Separate, site-specific human health criteria for carcinogens should be adopted for Schell Slough based on a 10 (-4) risk level and for Second Napa Slough based on a 10 (-5) risk level. Based on effluent sampling performed by the District, the District would be unable to comply with criteria for numerous carcinogens based on a 10 (-6) risk level (alpha-BHC, gamma-BHC, bromodichloromethane, indeno(1,2,3-cd)pyrene, chlordane, and 4,4'-DDT) without costly end-of-pipe controls. These controls would not produce a commensurate environmental benefit. At a 10 (-4) risk level, the District's discharge would not cause an in-stream exceedance of these criteria in Schell Slough, and at a 10 (-5) risk level, the discharge would not cause an in-stream exceedance in Second Napa Slough. The District does not believe these sloughs are heavily fished and therefore criteria based on 10 (-4) and 10 (-5) risk levels would likely provide greater protection than indicated by the risk levels. The District notes that none of these constituents were identified in EPA's economic analysis as significant contributors to baseline cancer risks for recreational anglers consuming San Francisco Bay fish (see Exhibit 8-7 in EPA's economic analysis).

Response to: CTR-038-007

EPA disagrees that it must or should establish separate, site-specific criteria in this rule for receiving waters where dischargers may be unable to meet the CTR criteria. In accordance with 40 CFR 131.11, criteria must be based on sound scientific rationale and must protect the designated use. There is no provision for EPA to consider the attainability or the scientific validity of the criteria with regard to specific dischargers or class of dischargers in adopting ambient water quality criteria in the CTR. Economic factors may be considered in designating uses (40 CFR 131.10); however, they may not be used to justify criteria which are not protective of those uses. The CTR itself does not adopt uses or

modify any uses previously adopted by the State. EPA presumes that the State has designated appropriate uses for its waters. Proposals to revise State-adopted uses must be brought to the State pursuant to its procedures for review of its water quality standards.

That being said, it should nevertheless be understood that EPA does support State adoption of site-specific criteria. As explained in the preamble to the proposed CTR, and further discussed in response to CTR-016-002, EPA will work with the State to approve acceptable State-adopted criteria (including site-specific criteria) and to stay the CTR where EPA has approved such State criteria.

With respect to risk level applicable to human health criteria when, as here, EPA establishes a water quality standard, EPA intends in its discretion to use a risk level of  $1 \times 10^{-6}$ , although the State may in its discretion choose another risk level for protection of human health, if the State has appropriately consulted the public. As discussed in responses to CTR-011-0001a and CTR-058-001 (Category C-13; Risk Level), EPA follows the risk-level policies of the affected state, when promulgating criteria as regulations.

The comment that the carcinogens that are asserted to be compliance problems are not identified in EPA's economic analysis as a significant contributor to baseline cancer risks for recreational anglers consuming San Francisco Bay fish may merely reflect a lack of information on these pollutants in sample locations that were selected for the benefits analysis. The fact that no baseline risks were found for the purposes of the analysis does not necessarily mean that the risk from these pollutants do not exist anywhere in the Bay or should not be prevented.

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Comment ID: CTR-038-008a  
Comment Author: Sonoma County Water Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-24 Site Specific Criteria  
References:  
Attachments? Y  
CROSS REFERENCES E-01c; R; S; T

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Comment: 7. Separate, sites-specific aquatic life criteria for copper and human health criteria for mercury should be adopted for Schell Slough, or alternatively EPA should specify implementation procedures for these criteria that will preclude unreasonable controls such as end-of-pipe treatment. To comply with the Clean Water Act and EPA regulations, EPA should consider specific water bodies. To fulfill the spirit of Presidential Executive Order 12866 and the requirements of the Unfunded Mandates Reform Act and the Regulatory Flexibility Act, EPA should evaluate regulatory alternatives based on an analysis of costs and benefits. Based on the assessment of costs and benefits described in "3" above, EPA should either adopt the criteria that is currently achieved, or alternatively specify implementation procedures that would allow the current discharge to continue (e.g., allowable Mixing zones and averaging periods and, for copper, a translator and water-effect ratio). Again, the District is amenable to continuing to address these constituents through pollution prevention measures and to assessing the actual impacts of these constituents in Schell Slough. Without EPA specifying such implementation procedures in the CTR, it is possible that the CTR could impose significant costs on the District (and the other small communities its serves) without providing a commensurate environmental benefit. In that

case, the CTR would be inconsistent with the Clean Water Act, EPA regulations, Presidential Executive Order 12866, the Unfunded Mandates Reform Act and the Regulatory Flexibility Act.

Response to: CTR-038-008a

EPA disagrees with this commenter's suggestion that separate, site-specific criteria for copper and mercury be adopted for Schell Slough, based on considerations of costs and benefits. EPA has conducted an analysis of costs and benefits for this rule pursuant to Executive Order 12866; however, the criteria themselves are not based on economic considerations. In accordance with 40 CFR 131.11, criteria must be based on sound scientific rationale and must protect the designated use. There is no provision for EPA to consider the attainability or the scientific validity of the criteria with regard to specific dischargers or class of dischargers in adopting ambient water quality criteria in the CTR. Economic factors may be considered in designating uses (40 CFR 131.10); however, they may not be used to justify criteria which are not protective of those uses.

That being said, it should nevertheless be understood that EPA does support the State's adoption of site-specific criteria. As explained in the preamble to the proposed CTR, and further discussed in response to CTR-016-002, EPA will work with the State to approve acceptable State-adopted criteria (including site-specific criteria) and to stay the CTR when EPA has approved such State criteria.

This commenter further suggests that EPA specify implementation procedures for certain criteria as an alternative to the proposed site-specific criteria. The CTR was not intended to include implementation provisions. The CTR is promulgated to add numeric criteria for priority toxic pollutants where they did not exist. To the extent that this commenter is proposing implementation provisions that are not inconsistent with CWA requirements, such provisions may be considered by the State for inclusion in its implementation plan (Draft Policy for Implementation of Toxics Standards for Inland Surface Waters and Enclosed Bays and Estuaries of California, September 11, 1997).

Finally, regarding the commenter's assertion that the CTR could be inconsistent with Executive Order 12866, the Regulatory Flexibility Act and the Unfunded Mandates Reform Act without further revision (such as suggested by the commenter), see the discussion of EPA's compliance with these requirements in the preamble to the final rule.

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Comment ID: CTR-039-001  
Comment Author: San Francisco BayKeeper  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-24 Site Specific Criteria  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: As EPA notes in the preamble to the rule, "adoption of water quality standards is primarily the responsibility of the states." 62 Fed. Reg. at 42166. In exercising that responsibility, the States have considerable discretion in applying the scientific and technical data available to them. A pervasive concern with the proposed rule is a lack of consistency by EPA in according appropriate deference to the

State of California's prior decisions, already approved by EPA. Where convenient, the proposed rule relies on the State's previous efforts, including for example the State's preference that health risks be based upon a 10<sup>-6</sup> risk level and the novel notion of interim permit limits. However, as regards the rule's most important feature and indeed the only *raison d'etre* for the rule - the numeric criteria - EPA almost completely abandons the State's prior technical determinations on the numeric criteria appropriate for California where the State's prior decision was more protective of the environment and human health than the currently proposed criteria. This is true for EPA's decision to go from total recoverable metals criteria to dissolved metals criteria, a proposal that is inconsistent with the State's prior approved decision and which will result in significant increases in total pollutants allowed to be discharged into San Francisco Bay and elsewhere in the State. The State's prior decisions also were abandoned for dioxin and mercury, including failing to consider all of the dioxin congeners, failing to consider the bioaccumulation of mercury (a well-documented characteristic of that potent toxic pollutant) and failing to consider the higher rates of fish consumption found in California and in discrete populations of subsistence and recreational anglers.

Response to: CTR-039-001

EPA disagrees with the suggestion that EPA should have deferred to the State's prior WQS decisions, previously approved by EPA. To the extent that the commenter is referring to criteria in the Inland Surface Waters Plan (ISWP) and the Enclosed Bays and Estuaries Plan (EBEP), EPA responds that those were considered along with all of the other scientific information that makes up the record for this rule. However, those statewide plans are no longer in effect, and EPA is not bound by them. EPA adopts criteria based on sound scientific rationale, which protect the designated uses of waters of the United States in California. Additional scientific information has become available for some pollutants since California adopted the ISWP and EBEP in 1991, which forms the basis for adopting CTR criteria which differ from some of the criteria previously adopted for the same waterbodies.

EPA further disagrees with passing statements in this comment criticizing EPA's use of dissolved rather than total recoverable metals, failure to consider all dioxin congeners, failure to consider bioaccumulation of mercury and failure to consider higher rates of fish consumption in California. For a detailed discussion of the points made regarding dioxin, see response to CTR-002-003 and CTR-002-006. Regarding EPA's use of dissolved rather than total recoverable metals see response to CTR-026-004. Regarding bioaccumulative properties of mercury, see CTR-002-007b. Regarding rates of fish consumption, see response to CTR-002-002a and the preamble of the final rule.

To the extent that this comment is referring to site-specific criteria for San Francisco Bay, EPA is revising the final CTR to ensure that EPA-approved State-adopted site-specific criteria shall remain in effect and not be superseded by CTR criteria for the same pollutants for those waters of the Bay where such site-specific criteria are currently in effect. See response to CTR-016-001.

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Comment ID: CTR-039-009  
Comment Author: San Francisco BayKeeper  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-24 Site Specific Criteria  
References:

Attachments? N

## CROSS REFERENCES

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### Comment: VII. EPA CAN ADJUST ITS PROPOSED RULE TO REFLECT REGIONAL CONDITIONS AND PROTECT USES IN SPECIFIC REGIONS

As EPA notes in the preamble, when it considered the State's 1991 criteria, it approved the proposed criteria for selenium for everywhere in the State except San Francisco Bay and the Delta. 62 Fed. Reg. at 42164. There is no reason that EPA cannot adjust its proposed rule to reflect the available scientific data that may only be available in certain regions of the State, including for example, data relating to mercury bioaccumulation in San Francisco Bay fish. The concept of treating dischargers from different areas fairly should not be applied so as to punish those regional ecosystems where agencies have been more proactive in collecting necessary data. Rather, dischargers should be treated equally stringently where data from one region indicates that uses are threatened by a particular pollutant throughout the State.

### CONCLUSION

In conclusion, BayKeeper is very concerned with the proposed rule. The State obviously must have numeric criteria for toxic pollutants. Great strides have been made, especially in the San Francisco Bay area, to reduce the mass of toxic pollutants entering the Bay. The proposed criteria likely will bring to a halt the most innovative programs to reduce toxic pollution. Instead of promoting innovation and driving dischargers' ability to achieve, some day, the penultimate goal of the Clean Water Act to eliminate all discharges of pollution to the Nation's waters, the proposed rule will only perpetuate mediocre toxic pollution control efforts and fail to reverse the ecological damage from toxic contamination, including dangerous levels of contaminants in fish already observed in Bay fish and the continuing decline of aquatic ecosystems around the State.

BayKeeper appreciates this opportunity to express our views on the proposed rule. If you have any questions, please feel free to call me at 1-800--KEEP-BAY.

Response to: CTR-039-009

EPA disagrees with this comment. In 1991, when EPA took action on the first phase of the Enclosed Bays and Estuaries Plan (EBEP), EPA did not disapprove the salt water aquatic life criterion for selenium. Instead, EPA made it clear that use of that criterion in permits issued for the San Francisco Bay and Delta would be unacceptable. This was consistent with the EBEP provision which stated that more stringent objectives and control measures could be applied by the Regional Boards in some estuarine waters. (Letter of November 6, 1991, to W. Don Maughan, Chairman, State Water Resources Control Board, from Daniel W. McGovern Regional Administrator, EPA Region IX.) In December 1992, EPA adopted freshwater aquatic life criterion for the San Francisco Bay Estuary as part of the National Toxics Rule (NTR) because the San Francisco Bay Regional board had not itself specified that it would apply the freshwater criterion, consistent with EPA's November 6, 1991 letter. (57 Fed. Reg. 60898.) This was not the promulgation of a site-specific criterion for the San Francisco Bay and Delta, however. Although the freshwater criterion was the same as the freshwater selenium criterion in the Inland Surface Water Plan (ISWP), it was also EPA's national fresh water selenium criterion. As explained in the Preamble to the final NTR (Id.), EPA simply was unable to adopt site-specific criteria as part of the NTR. The same is true of the CTR.

As noted in footnotes to the CTR selenium criterion, the CTR does not supercede that provision of the NTR ( 40 CFR 131.36(d)(10)).

Regarding general concerns included in this comment regarding the effect of the CTR on criteria developed for San Francisco Bay, see responses to CTR-016-001 and CTR-002-003.

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Comment ID: CTR-040-050

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24 Site Specific Criteria

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: The Preamble to the California Toxics Rule (CTR), and the rules accompanying Economic Analysis (EA), place a great deal of emphasis on the ability of dischargers to use alternative regulatory approaches to comply with CTR criteria if the cost of treatment technology was prohibitively expensive. For example, the EA assumes that, if the estimated annualized cost for removing a pollutant exceeded a cost trigger,(\*1) "dischargers would explore the use of alternative regulatory approaches to comply with CTR-based effluent limits." EA at.pg. 4 (emphasis added). Based on this assumption, no treatment cost was estimated for the facility.(\*2)

The types of alternative regulatory approaches assumed available for dischargers in California include phased total maximum daily loads (TMDLs), water quality standard variances, site-specific criteria, change in designated use, and alternative mixing zones. EA at pg. 4-5. The following sections will discuss each of EPA's proposed methods for regulatory relief and explain whether or not these methods can truly be used to provide relief from the CTR-based permit limits as anticipated by EPA. It should be noted that the actual language of the rule itself does not mention any of the methods of regulatory relief. Therefore, this analysis will be based solely upon the language contained in the Preamble to the CTR.

#### Site Specific Criteria

Another one of the avenues of potential regulatory relief discussed in the Preamble to the CTR is the adoption of site-specific water quality criteria. The Preamble, provides that the "State has the discretion to develop site-specific criteria when appropriate e.g., when statewide criteria appear over- or under-protective of designated uses. The Preamble goes on to explain the site-specific criteria adoption process as follows:

Periodically, the State through its RWQCBs will adopt site-specific criteria for priority toxic pollutants within respective Basin Plans. These criteria are intended to be effective throughout the Basin or throughout a designated water body. Under California law, these criteria must be publicly reviewed and approved by the RWQCB, the SWRCB, and the State's Office of Administrative Law (OAL). Once this adoption process is complete, the criteria become State law. These criteria must be submitted to the EPA Regional Administrator for review and approval under CWA section 303. These criteria are usually submitted to EPA as part of a RWQCB Basin Plan Amendment, after the Amendment has been adopted

under the State's process and has become State law. CTR Preamble at pg. 42165.

The Preamble explains that the State of California has recently reviewed and updated all of its RWQCB Basin Plans. All of these Basin Plans, some of which contain site-specific criteria, have completed the State review and adoption process and have been submitted to EPA for review and approval. The key to whether or not these site-specific criteria will provide regulatory relief is when the EPA approval/disapproval occurs. Three different timing scenarios and results are possible:

1. If EPA approves any State-adopted site-specific criteria before promulgation of the final CTR is published, then the EPA Administrator may make a finding in that final rule that it will be unnecessary to promulgate criteria for the approved site-specific pollutants and associated water bodies.
2. EPA disapproves any State-adopted site-specific criteria, the proposed statewide criteria contained in the CTR would apply for those pollutants and associated water bodies instead of the site-specific criteria.
3. However, if EPA promulgates statewide federal criteria as proposed in the CTR, prior to a decision on any State-adopted site-specific criteria, the more stringent of the two criteria would be used for water quality programs. Both federal and State water quality programs must be satisfied, and application of the more stringent of the two criteria would satisfy both. CTR Preamble at pg. 42165.

Thus, the only way less stringent site specific criteria can be used for regulatory relief is if those criteria are approved by EPA prior to the publication of the final CTR. otherwise, either the CTR or the more stringent of the two (CTR vs. site-specific) criteria apply.

One final note regarding site-specific criteria is that the Preamble to the CTR restricts the ability to use native aquatic life as a way to set site-specific criteria. Instead of allowing a discharger to substitute local species from the receiving waters into which it discharges, the Preamble only allows a discharger to supplement the eight specified families of aquatic life required for criteria development with the addition of native species.(\*9) It is doubtful whether this requirement will aid dischargers who are seeking regulatory relief.

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(\*1) This coat trigger is \$200 per toxic pounds-equivalent for a facility under the low-end scenario, and \$500 per toxic pounds-equivalent for a category of dischargers under the high-end scenario. See EA at pg. 4.

(\*2) In addition, pollutant load reductions were not calculated or credited for any pollutant for which an alternative regulatory approach was pursued. Id.

(\*9) "A minimum data set of eight specified facilities is required for criteria development (details are given in the 1985 Guidelines, page 22). The eight specific families are intended to be representative of a wide spectrum of aquatic life. For this reason it is not necessary that the specific organisms tested be actually present in the water body. States may develop site-specific criteria using native species, provided that the broad spectrum represented by the eight families is maintained. All aquatic organisms and their common uses are meant to be considered, but not necessarily protected, if relevant data are available." CTR Preamble at pg. 42168.

Response to: CTR-040-050

EPA disagrees with this comment. See response to CTR-004-008.

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Comment ID: CTR-041-046  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-24 Site Specific Criteria  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: The Preamble to the California Toxics Rule (CTR), and the rules accompanying Economic Analysis (EA), place a great deal of emphasis on the ability of dischargers to use alternative regulatory approaches to comply with CTR criteria if the cost of treatment technology was prohibitively expensive. For example, the EA assumes that, if the estimated annualized cost for removing a pollutant exceeded a cost trigger,(\*1) "dischargers would explore the use of alternative regulatory approaches to comply with CTR-based effluent limits." EA at.pg. 4(emphasis added). Based on this assumption, no treatment cost was estimated for the facility.(\*2)

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### Site Specific Criteria

Another one of the avenues of potential regulatory relief discussed in the Preamble to the CTR is the adoption of site-specific water quality criteria. The Preamble, provides that the "State has the discretion to develop site-specific criteria when appropriate e.g., when statewide criteria appear over- or under-protective of designated uses. The Preamble goes on to explain the site-specific criteria adoption process as follows:

Periodically, the State through its RWQCBs will adopt site-specific criteria for priority toxic pollutants within respective Basin Plans. These criteria are intended to be effective throughout the Basin or throughout a designated water body. Under California law, these criteria must be publicly reviewed and approved by the RWQCB, the SWRCB, and the State's Office of Administrative Law (OAL). Once this adoption process is complete, the criteria become State law. These criteria must be submitted to the EPA Regional Administrator for review and approval under CWA section 303. These criteria are usually submitted to EPA as part of a RWQCB Basin Plan Amendment, after the Amendment has been adopted under the State's process and has become State law. CTR Preamble at pg. 42165.

The Preamble explains that the State of California has recently reviewed and updated all of its RWQCB Basin Plans. All of these Basin Plans, some of which contain site-specific criteria, have completed the State review and adoption process and have been submitted to EPA for review and approval. The key to whether or not these site-specific criteria will provide regulatory relief is when the EPA approval/disapproval occurs. Three different timing scenarios and results are possible:

1. If EPA approves any State-adopted site-specific criteria before promulgation of the final CTR is published, then the EPA Administrator may make a finding in that final rule that it will be unnecessary to promulgate criteria for the approved site-specific pollutants and associated water bodies. 2. EPA disapproves any State-adopted site-specific criteria, the proposed statewide criteria contained in the CTR would apply for those pollutants and associated water bodies instead of the site-specific criteria. 3. However, if EPA promulgates statewide federal criteria as proposed in the CTR, prior to a decision on any State-adopted site-specific criteria, the more stringent of the two criteria would be used for water quality programs. Both federal and State water quality programs must be satisfied, and application of the more stringent of the two criteria would satisfy both. CTR Preamble at pg. 42165.

Thus, the only way less stringent site specific criteria can be used for regulatory relief is if those criteria are approved by EPA prior to the publication of the final CTR. Otherwise, either the CTR or the more stringent of the two (CTR vs. site-specific) criteria apply.

One final note regarding site-specific criteria is that the Preamble to the CTR restricts the ability to use native aquatic life as a way to set site-specific criteria. Instead of allowing a discharger to substitute local species from the receiving waters into which it discharges, the Preamble only allows a discharger to supplement the eight specified families of aquatic life required for criteria development with the addition of native species.(\*9) It is doubtful whether this requirement will aid dischargers who are seeking regulatory relief.

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(\*1) This coat trigger is \$200 per toxic pounds-equivalent for a facility under the low-end scenario, and \$500 per toxic pounds-equivalent for a category of dischargers under the high-end scenario. See EA at pg. 4.

(\*2) In addition, pollutant load reductions were not calculated or credited for any pollutant for which an alternative regulatory approach was pursued. Id.

(\*9) "A minimum data set of eight specified facilities is required for criteria development (details are given in the 1985 Guidelines, page 22). The eight specific families are intended to be representative of a wide spectrum of aquatic life. For this reason it is not necessary that the specific organisms tested be actually present in the water body. States may develop site-specific criteria using native species, provided that the broad spectrum represented by the eight families is maintained. All aquatic organisms and their common uses are meant to be considered, but not necessarily protected, if relevant data are available." CTR Preamble at pg. 42168.

Response to: CTR-041-046

EPA disagrees with this comment. See response to CTR-004-008.

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Comment ID: CTR-043-006a  
Comment Author: City of Vacaville  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-24 Site Specific Criteria  
References:

Attachments? Y

CROSS REFERENCES C-13

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Comment: 6. EPA should adopt separate, site-specific human health criteria for Old Alamo Creek based on a 10 (-4) risk level. As previously indicated the City would have to construct costly end-of-pipe controls to comply with the human health criteria for several carcinogens. The subject criteria are based on a cancer risk level of 10 (-6). These controls would not produce a commensurate environmental benefit. At a 10 (-4) risk level, the City's discharge would not cause an in-stream exceedance of these criteria. The City does not believe Old Alamo Creek is heavily fished and therefore criteria based on a 10 (-4) risk level would likely provide greater protection than indicated by the risk level. The City notes that none of these carcinogens were identified in EPA's economic analysis as a significant contributor to baseline cancer risks for recreational anglers consuming freshwater fish in California (see Exhibit 8-9 in EPA's economic analysis).

Response to: CTR-043-006a

EPA disagrees with this commenter's suggestion that separate, site-specific human health criteria be adopted for Old Alamo Creek, based on considerations of costs and benefits. EPA has conducted an analysis of costs and benefits for this rule pursuant to Executive Order 12866 (see discussion in preamble to final rule); however, the criteria themselves are not based on economic considerations. In accordance with 40 CFR 131.11, criteria must be based on sound scientific rationale and must protect the designated use. There is no provision for EPA to consider the attainability or the scientific validity of the criteria with regard to specific dischargers or class of dischargers in adopting ambient water quality criteria in the CTR. Economic factors may be considered in designating uses (40 CFR 131.10); however, they may not be used to justify criteria which are not protective of those uses.

That being said, it should nevertheless be understood that EPA does support the State's adoption of site-specific criteria. As explained in the preamble to the proposed CTR, and further discussed in response to CTR-016-002, EPA will work with the State to approve acceptable State-adopted criteria (including site-specific criteria) and to stay the CTR when EPA has approved such State criteria.

With respect to risk level applicable to human health criteria when, as here, EPA establishes a water quality standard, EPA intends in its discretion to use a risk level of  $1 \times 10^{-6}$ , although the State may in its discretion choose another risk level for protection of human health, if the State has appropriately consulted the public. As discussed in responses to CTR-011-001a and CTR-058-001 (Category C-13; Risk Level), EPA follows the risk-level policies of the affected state, when promulgating criteria as regulations.

See also response to CTR-043-006b.

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Comment ID: CTR-044-007b

Comment Author: City of Woodland

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-24 Site Specific Criteria

References:

Comment: We have reviewed the proposed CTR and offer the following comments:

6. EPA should adopt separate, site-specific human health criteria for Tule Canal based on a 10 (-4) risk level. Based on effluent sampling, the City would have to construct costly end-of-pipe controls to comply with criteria for aldrin (and perhaps other carcinogens) based on a 10 (-6) risk level. These controls would not produce a commensurate environmental benefit. At a 10 (-4) risk level, the City's discharge would not cause an in-stream exceedance of these criteria in Tule Canal. The City does not believe Tule Canal is heavily fished and therefore criteria based on a 10 (-4) risk level would likely provide greater protection than indicated by the risk level. The City notes that aldrin was not identified in EPA's economic analysis as a significant contributor to baseline cancer risks for recreational anglers consuming freshwater fish in California (see Exhibit 8-9 in EPA's economic analysis).

Response to: CTR-044-007b

EPA disagrees with this commenter's suggestion that separate, site-specific human health criteria be adopted for Tule Canal, based on considerations of costs and benefits. EPA has conducted an analysis of costs and benefits for this rule pursuant to Executive Order 12866 (see discussion in preamble to final rule); however, the criteria themselves are not based on economic considerations. In accordance with 40 CFR 131.11, criteria must be based on sound scientific rationale and must protect the designated use. There is no provision for EPA to consider the attainability or the scientific validity of the criteria with regard to specific dischargers or class of dischargers in adopting ambient water quality criteria in the CTR. Economic factors may be considered in designating uses (40 CFR 131.10); however, they may not be used to justify criteria which are not protective of those uses.

That being said, it should nevertheless be understood that EPA does support the State's adoption of site-specific criteria. As explained in the preamble to the proposed CTR, and further discussed in response to CTR-016-002, EPA will work with the State to approve acceptable State-adopted criteria (including site-specific criteria) and to stay the CTR when EPA has approved such State criteria.

With respect to risk level applicable to human health criteria when, as here, EPA establishes a water quality standard, EPA intends in its discretion to use a risk level of  $1 \times 10^{-6}$ , although the State may in its discretion choose another risk level for protection of human health, if the State has appropriately consulted the public. As discussed in responses to CTR-011-001a and CTR-058-001 (Category C-13; Risk Level), EPA follows the risk-level policies of the affected state, when promulgating criteria as regulations.

See also response to CTR-044-007a.

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Comment ID: CTR-044-041  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97

Subject Matter Code: C-24 Site Specific Criteria

References:

Attachments? N

CROSS REFERENCES

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Comment: The Preamble to the California Toxics Rule (CTR), and the rules accompanying Economic Analysis (EA), place a great deal of emphasis on the ability of dischargers to use alternative regulatory approaches to comply with CTR criteria if the cost of treatment technology was prohibitively expensive. For example, the EA assumes that, if the estimated annualized cost for removing a pollutant exceeded a cost trigger,(\*1) "dischargers would explore the use of alternative regulatory approaches to comply with CTR-based effluent limits." EA at.pg. 4(emphasis added). Based on this assumption, no treatment cost was estimated for the facility.(\*2)

The types of alternative regulatory approaches assumed available for dischargers in California include phased total maximum daily loads (TMDLs), water quality standard variances, site-specific criteria, change in designated use, and alternative mixing zones. EA at pg. 4-5. The following sections will discuss each of EPA's proposed methods for regulatory relief and explain whether or not these methods can truly be used to provide relief from the CTR-based permit limits as anticipated by EPA. It should be noted that the actual language of the rule itself does not mention any of the methods of regulatory relief. Therefore, this analysis will be based solely upon the language contained in the Preamble to the CTR.

#### Site Specific Criteria

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The Preamble explains that the State of California has recently reviewed and updated all of its RWQCB Basin Plans. All of these Basin Plans, some of which contain site-specific criteria, have completed the State review and adoption process and have been submitted to EPA for review and approval. The key to whether or not these site-specific criteria will provide regulatory relief is when the EPA approval/disapproval occurs. Three different timing scenarios and results are possible:

1. If EPA approves any State-adopted site-specific criteria before promulgation of the final CTR is published, then the EPA Administrator may make a finding in that final rule that it will be unnecessary to promulgate criteria for the approved site-specific pollutants and associated water bodies.
2. EPA disapproves any State-adopted site-specific criteria, the proposed statewide criteria contained in the CTR would apply for those pollutants and associated water bodies instead of the site-specific criteria.
- 3.

However, if EPA promulgates statewide federal criteria as proposed in the CTR, prior to a decision on any State-adopted site-specific criteria, the more stringent of the two criteria would be used for water quality programs. Both federal and State water quality programs must be satisfied, and application of the more stringent of the two criteria would satisfy both. CTR Preamble at pg. 42165.

Thus, the only way less stringent site specific criteria can be used for regulatory relief is if those criteria are approved by EPA prior to the publication of the final CTR. Otherwise, either the CTR or the more stringent of the two (CTR vs. site-specific) criteria apply.

One final note regarding site-specific criteria is that the Preamble to the CTR restricts the ability to use native aquatic life as a way to set site-specific criteria. Instead of allowing a discharger to substitute local species from the receiving waters into which it discharges, the Preamble only allows a discharger to supplement the eight specified families of aquatic life required for criteria development with the addition of native species.<sup>(\*9)</sup> It is doubtful whether this requirement will aid dischargers who are seeking regulatory relief.

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(\*1) This cost trigger is \$200 per toxic pounds-equivalent for a facility under the low-end scenario, and \$500 per toxic pounds-equivalent for a category of dischargers under the high-end scenario. See EA at pg. 4.

(\*2) In addition, pollutant load reductions were not calculated or credited for any pollutant for which an alternative regulatory approach was pursued. Id.

(\*9) "A minimum data set of eight specified families is required for criteria development (details are given in the 1985 Guidelines, page 22). The eight specific families are intended to be representative of a wide spectrum of aquatic life. For this reason it is not necessary that the specific organisms tested be actually present in the water body. States may develop site-specific criteria using native species, provided that the broad spectrum represented by the eight families is maintained. All aquatic organisms and their common uses are meant to be considered, but not necessarily protected, if relevant data are available." CTR Preamble at pg. 42168.

Response to: CTR-044-041

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Comment ID: CTR-050-005a  
Comment Author: Sonnenschein Nath & Rosenthal  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org: American Petrol  
Document Date: 09/26/97  
Subject Matter Code: C-24 Site Specific Criteria  
References:  
Attachments? N  
CROSS REFERENCES G-07

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Comment: II. EPA Should Allow Variances and Site-Specific modifications.

Beyond the issue of whether EPA has the authority to issue the proposed rule, there are other significant problems with the proposal. For example, the Agency has made the inexplicable decision not to include provisions that would allow for issuance of variances or site-specific modifications to the criteria. This is

despite the Agency's recognition that a variance procedure is an "important procedure to assist the State in effectively implementing water quality standards." (62 Fed. Reg. at 42185). EPA gives absolutely no explanation for its decision not to allow use of this procedure. Moreover, the Agency concedes that "promulgation of this federal rule removes most of the flexibility available to the State for modifying its standards on a discharger-specific or stream-specific basis. " Instead, an applicant would have to ask EPA to begin a "federal rulemaking on a case-by-case basis to change the federal rule." (62 Fed. Reg. at 42186) EPA makes it quite clear that applicants should not expect any relief from that avenue, because the Agency simply has more important things to do:

Because of the time consuming nature of reviewing such requests, limited federal resources, and the need for the Agency to move into other priority program areas in establishing environmental controls, EPA alerts California and the public that a prompt Agency response is unlikely.

Despite this cavalier dismissal of the need for actually acting on variance and site criteria applications, the Agency does not hesitate to mention those mechanisms in its economic analysis as being available to moderate the impact of the proposed rule. The Agency specifically mentions variances and site-specific criteria when it states that "these implementation procedures can have an effect on how water quality standards, based on today's proposed rule, will impact NPDES permit holders." (62 Fed. Reg. at 42192). In fact, that statement is clearly false, given EPA's decision not to include variance or site-specific criteria procedures in the proposed rule. The Agency should reconsider that decision and insert those provisions.

Response to: CTR-050-005a

EPA disagrees with this comment. We believe that the commenter misunderstood the cautionary language that was part of the proposed rule. The CTR does not preclude the issuance of variances from CTR criteria or future state adoption of site-specific criteria.

Variances would modify applicable CTR criteria for individual dischargers. Site-specific criteria would modify CTR criteria for individual waterbodies. Since the State lacks authority to modify federally promulgated CTR criteria itself (See response to CTR-035-014), EPA must approve individual variances and site-specific criteria and stay the applicable CTR criteria to allow these State modification actions to take effect under the CWA. (As stated in the preamble to the proposed CTR, the State must also adopt a variance policy, and EPA must approve the policy, before the State may issue variances to individual dischargers.) EPA stated in the proposed CTR preamble that when the State has completed its own process for modifying criteria, and EPA approves the State's new or revised criteria, EPA does intend to stay the CTR.

Because there is uncertainty as to how the State will implement CTR criteria in individual permits, EPA's economic analysis of the CTR included a wide range of estimated costs and benefits. The analysis was not based on any certainty that variances and site-specific modifications of criteria would be available to every permittee; on the other hand, the analysis assumed that the State was likely to choose implementation provisions that provide some degree of flexibility or relief to point source dischargers. For a discussion of the approach taken in the economics analysis, see the preamble to the final rule.

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Comment ID: CTR-051-001

Comment Author: Cal. RWQCB Central Valley Reg.

Document Type: State Government

State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-24 Site Specific Criteria  
References:  
Attachments? N

#### CROSS REFERENCES

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Comment: We have reviewed the proposed California Toxics Rule. We have comments about several of the proposed provisions in the Toxics Rule. Many of our concerns are similar to those detailed in the September 25 letter from the Saa, Francisco Bay Regional Water Quality Control Board.

#### Site Specific Objectives

We are concerned that the language in the proposed Toxics Rule would hamper future Regional Board efforts to establish site specific objectives. EPA cautions California and the public that promulgation of this federal rule removes most of the flexibility available to the State for modifying its standards on a discharger-specific or stream-specific basis. Also, EPA states that they may be unable to review state developed standards in a timely manner. However, the Regional Boards are required and authorized under the Clean Water Act and state law to review and, as appropriate, consider modification of promulgated standards as they apply to specific water bodies within each region as part of the triennial review process. We suggest that the language in the proposed Toxics Rule be amended to encourage, rather than discourage, development of site specific objectives.

Response to: CTR-051-001

EPA disagrees with this comment. We believe that the commenter misunderstood the cautionary language that was part of the proposed rule. The CTR does not preclude state adoption of criteria after the CTR has been promulgated. As EPA stated in the preamble to the proposed CTR, when the State has completed its own process, and EPA approves the State's new or revised criteria, EPA intends to stay the CTR. Similarly, if the State adopts site-specific criteria (including site-specific Basin Plan criteria adopted by Regional Boards which have completed the State review and adoption process), and EPA has approved them based on their individual merits, EPA intends to stay that portion of the CTR that applies more general criteria to the specific site. Each individual stay on a site-specific basis would require federal rulemaking on a case-by-case basis, and generally require more detailed effort on the Agency's part than a statewide stay.

Moreover, it is possible that State-adopted criteria could become effective for CWA purposes within the State even prior to EPA approval or rulemaking, although this would change if a rule that EPA has recently proposed is promulgated as proposed. The "Alaska Rule," 64 Fed.Reg. 37072, July 9, 1999. Until the Alaska Rule goes final, the State could adopt new or revised standards which are more stringent than the CTR, and those standards would be effective for CWA purposes within the state without any EPA action. Moreover, prior to a final Alaska Rule, the State could adopt statewide standards, and if EPA approved those standards and stayed the CTR based on them, then subsequent site-specific criteria would apply within the State when adopted by the State without requiring additional EPA approval or rulemaking. If the Alaska Rule becomes final as proposed, however, regardless of whether the CTR has been stayed, only state-adopted criteria which are more stringent than the otherwise applicable standards could be applied within the State, prior to EPA approval of those standards.

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Comment ID: CTR-052-008

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-24 Site Specific Criteria

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

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Comment: EPA should have considered the CTR specifically as it applies to San Francisco Bay. As noted previously, implementation of the CTR and full compliance by Bay Area POTWs will result in a reduction of between 1-10% of the toxic load on San Francisco Bay. Since 90-99% of the toxic load will still be present from such sources as non-point, riverine, agricultural drainage, acid mines, atmospheric deposition, etc., it is reasonable to conclude that full compliance by POTWs will result in no significant improvement to the Bay. In other words, the benefits will actually approach zero. Annual costs for Bay Area POTWs will range from \$130,000,000 to \$185,000,000 or more. Such an expenditure for essentially no benefit is clearly not in the best interests of the public or the environment. It is, therefore, reasonable to conclude that in its current form, the CTR should exempt San Francisco Bay, or at least exempt POTWs discharging to the Bay. EPA should acknowledge that Bay Area POTWs have had NPDES permits with effluent limitations for toxic pollutants for many years. Exempting POTWs from the CTR would not have any impact on current standards.

Response to: CTR-052-008

EPA disagrees with this comment. EPA did consider the CTR specifically as it applies to San Francisco Bay, and has modified the CTR accordingly. (See response to CTR-016-001.)

EPA acknowledges that a number of Bay Area POTWs have NPDES permits with effluent limitations for toxic pollutants; however, that information does not serve as justification for exempting the Bay, or certain dischargers to the Bay, from the CTR, where it applies. Water quality standards are developed to protect the designated uses of the waters of the United States, and the standards contained in the CTR are EPA's view of the standards necessary to protect designated uses.. The CTR applies to all sources of toxics discharged to water of the Bay (except where EPA-approved San Francisco Bay Basin Plan criteria apply), not merely to publicly owned treatment works (POTWs). These ambient WQS can also assist in the reduction of pollution from non-point sources, through the TMDL process.

For a discussion of EPA's economic analysis for the CTR in general, see the preamble to the final rule.

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Comment ID: CTR-052-017

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-24 Site Specific Criteria

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

#### CROSS REFERENCES

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Comment: C. RECOMMENDATIONS FOR MODIFICATIONS TO THE CTR AND EA

Specify in the Preamble that EPA would support a scientifically defensible, reasonably achievable site specific objective (SSO) for copper for San Francisco Bay. The analysis by Larry Walker used data from the San Francisco Bay Regional Monitoring Plan and concludes that a translator of 1.6 should be used to result in a total recoverable concentration of 5.0 ug/L. Note that this value compares favorably with the existing SSO of 4.9 ug/L. Most of the copper attainability issues, including the Authority's, would be resolved by this approach.

Response to: CTR-052-017

EPA disagrees that EPA should specifically express support for a "scientifically defensible, reasonably achievable" (emphasis added) site-specific criterion for copper in San Francisco Bay, using a translator of 1.6. This comment confuses the adoption of appropriate copper criteria with the approval of a translator to implement such criteria. Translators are implementation mechanisms which are not included in the CTR, but may be adopted by the State.

Regarding the achievability of any criterion for any particular discharger, there is no provision for EPA to consider the attainability or the scientific validity of the criteria with regard to specific dischargers or class of dischargers in adopting ambient water quality criteria in the CTR. In accordance with 40 CFR 131.11, criteria must be based on sound scientific rationale and must protect the designated use. Economic factors may be considered in designating uses (40 CFR 131.10); however, they may not be used to justify criteria which are not protective of those uses.

That being said, it should nevertheless be understood that EPA supports State adoption of site-specific criteria. As explained in the preamble to the proposed CTR, and further discussed in the response to CTR-016-002, EPA will work with the State to approve acceptable State-adopted criteria (including site-specific criteria) and intends to stay the CTR where such State criteria are in effect. In the meantime, in the absence of such criteria for aquatic life for copper in waters of San Francisco Bay, with salinity greater than 5 ppt, EPA is promulgating criteria based on EPA's section 304(a) national marine water copper aquatic life criterion, which is consistent with the requirements of the CWA. (40 CFR Section 131.11(b).) See also responses to CTR-016-001 and CTR-016-002.

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Comment ID: CTR-053-006

Comment Author: Heal the Bay

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-24 Site Specific Criteria

References: Letter CTR-053 incorporates by reference letter 6 and the comments on Dioxin, copper, and the compliance schedule from letter CTR-002

Attachments? N

#### CROSS REFERENCES

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Comment: Heal the Bay expects EPA to continue their participation and leadership in this process, and to be supportive of any State effort to adopt more stringent numeric criteria for specific pollutants. Thank you for your consideration of these comments.

Response to: CTR-053-006

EPA appreciates this comment which provides general support for the CTR process and for EPA's ongoing efforts to support State water quality standards development.

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Comment ID: CTR-054-008b  
Comment Author: Bay Area Dischargers Assoc.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-24 Site Specific Criteria  
References:  
Attachments? Y  
CROSS REFERENCES C-02b; E-01c; R; S

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Comment: Separate, scientifically defensible, reasonably achievable aquatic life criteria for copper should be adopted for San Francisco Bay, or alternatively EPA should specify in the Preamble implementation policies for copper that will result in reasonable control measures actions. To comply with the Clean Water Act and EPA regulations, EPA is required to consider specific water bodies. To fulfill the spirit of Presidential Executive Order 12866 and the requirements of the Unfunded Mandates Reform Act, EPA is required to evaluate regulatory alternatives based on an analysis of costs and benefits. Based on BADA's analysis of costs and benefits, EPA should either adopt copper criteria that are reasonably achievable or alternatively specify implementation policies that will avoid costly end-of-pipe controls. Potential implementation measures that could be specified include use of the following in calculating effluent limitations: actual dilution based on modeling studies; copper translators; probability of compliance less than 99.9%; and water-effect ratios determined for different segments of the Bay. Unless EPA specifies these or similar implementation policies in the rule, it is possible that the CTR could result in significant costs (\$12 million per year to \$78 million per year) while resulting in minor environmental benefit (a 1% reduction in copper loading to the Bay). In that case, the CTR would violate the Clean Water Act, EPA regulations, Presidential Executive Order 12866, the Unfunded Mandates Reform Act and the Regulatory Flexibility Act. (see the discussion under Item 11 below.)

Response to: CTR-054-008b

EPA disagrees with the commenter's request that EPA either adopt site-specific copper criteria for San Francisco Bay or, in the CTR preamble, specify the use of certain implementation policies for copper.

In support of its request for the adoption of "scientifically defensible, reasonably achievable aquatic life criteria for copper" (emphasis added), the commenter cites its own analysis of costs and benefits. EPA has conducted an analysis of costs and benefits for this rule pursuant to Executive Order 12866 (see discussion in preamble to final rule); however, the criteria themselves are not based on economic

considerations. In accordance with 40 CFR 131.11, criteria must be based on sound scientific rationale and must protect the designated use. There is no provision for EPA to consider the attainability or the scientific validity of the criteria with regard to specific dischargers or class of dischargers in adopting ambient water quality criteria in the CTR. Economic factors may be considered in designating uses (40 CFR 131.10); however, they may not be used to justify criteria which are not protective of those uses.

That being said, it should nevertheless be understood that EPA supports the adoption of site-specific criteria by the State. As explained in the preamble to the proposed CTR, and further discussed in the response to CTR-016-002, EPA will work with the State to approve acceptable State-adopted criteria (including site-specific criteria) and intends to stay the CTR when EPA has approved such State criteria. In the meantime, in the absence of such criteria for aquatic life for copper in waters of San Francisco Bay, with salinity greater than 5 ppt, EPA is promulgating criteria based on EPA's section 304(a) national marine water copper aquatic life criterion, which is consistent with the requirements of the CWA. (40 CFR Section 131.11(b).) See also responses to CTR-016-001 and CTR 016 -002.

Regarding the suggestion that EPA specify the use of dilution, metals translators and water effect ratios, or similar implementation provisions, EPA disagrees. With the exception of compliance schedules, the CTR does not include implementation provisions; the CTR is promulgated to add numeric criteria for toxic pollutants where they did not exist. The State may address these issues in a separate implementation plan, which it is currently developing. ("Policy for implementation of Toxic Standards for Inland surface Waters, Enclosed Bays and Estuaries of California", released for public comment, September 11, 1997.)

Finally, regarding the commenter's assertion that the CTR could be inconsistent with Executive Order 12866, the Regulatory Flexibility Act and the Unfunded Mandates Reform Act without further revision (such as suggested by the commenter), see the discussion of EPA's compliance with these requirements in the preamble to the final rule.

See also response to CTR-054-008c.

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Comment ID: CTR-054-045  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-24 Site Specific Criteria  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: The Preamble to the California Toxics Rule (CTR), and the rules accompanying Economic Analysis (EA), place a great deal of emphasis on the ability of dischargers to use alternative regulatory approaches to comply with CTR criteria if the cost of treatment technology was prohibitively expensive. For example, the EA assumes that, if the estimated annualized cost for removing a pollutant exceeded a cost trigger,(\*1) "dischargers would explore the use of alternative regulatory approaches to comply with CTR-based effluent limits." EA at.pg. 4(emphasis added). Based on this assumption, no treatment cost was estimated for the facility.(\*2)

The types of alternative regulatory approaches assumed available for dischargers in California include phased total maximum daily loads (TMDLs), water quality standard variances, site-specific criteria, change in designated use, and alternative mixing zones. EA at pg. 4-5. The following sections will discuss each of EPA's proposed methods for regulatory relief and explain whether or not these methods can truly be used to provide relief from the CTR-based permit limits as anticipated by EPA. It should be noted that the actual language of the rule itself does not mention any of the methods of regulatory relief. Therefore, this analysis will be based solely upon the language contained in the Preamble to the CTR.

### Site Specific Criteria

Another one of the avenues of potential regulatory relief discussed in the Preamble to the CTR is the adoption of site-specific water quality criteria. The Preamble, provides that the "State has the discretion to develop site-specific criteria when appropriate e.g., when statewide criteria appear over- or under-protective of designated uses. The Preamble goes on to explain the site-specific criteria adoption process as follows:

Periodically, the State through its RWQCBs will adopt site-specific criteria for priority toxic pollutants within respective Basin Plans. These criteria are intended to be effective throughout the Basin or throughout a designated water body. Under California law, these criteria must be publicly reviewed and approved by the RWQCB, the SWRCB, and the State's Office of Administrative Law (OAL). Once this adoption process is complete, the criteria become State law. These criteria must be submitted to the EPA Regional Administrator for review and approval under CWA section 303. These criteria are usually submitted to EPA as part of a RWQCB Basin Plan Amendment, after the Amendment has been adopted under the State's process and has become State law. CTR Preamble at pg. 42165.

The Preamble explains that the State of California has recently reviewed and updated all of its RWQCB Basin Plans. All of these Basin Plans, some of which contain site-specific criteria, have completed the State review and adoption process and have been submitted to EPA for review and approval. The key to whether or not these site-specific criteria will provide regulatory relief is when the EPA approval/disapproval occurs. Three different timing scenarios and results are possible:

1. If EPA approves any State-adopted site-specific criteria before promulgation of the final CTR is published, then the EPA Administrator may make a finding in that final rule that it will be unnecessary to promulgate criteria for the approved site-specific pollutants and associated water bodies.
2. EPA disapproves any State-adopted site-specific criteria, the proposed statewide criteria contained in the CTR would apply for those pollutants and associated water bodies instead of the site-specific criteria.
3. However, if EPA promulgates statewide federal criteria as proposed in the CTR, prior to a decision on any State-adopted site-specific criteria, the more stringent of the two criteria would be used for water quality programs. Both federal and State water quality programs must be satisfied, and application of the more stringent of the two criteria would satisfy both. CTR Preamble at pg. 42165.

Thus, the only way less stringent site specific criteria can be used for regulatory relief is if those criteria are approved by EPA prior to the publication of the final CTR. Otherwise, either the CTR or the more stringent of the two (CTR vs. site-specific) criteria apply.

One final note regarding site-specific criteria is that the Preamble to the CTR restricts the ability to use native aquatic life as a way to set site-specific criteria. Instead of allowing a discharger to substitute local species from the receiving waters into which it discharges, the Preamble only allows a discharger to supplement the eight specified families of aquatic life required for criteria development with the addition

of native species.(\*9) It is doubtful whether this requirement will aid dischargers who are seeking regulatory relief.

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(\*1) This coat trigger is \$200 per toxic pounds-equivalent for a facility under the low-end scenario, and \$500 per toxic pounds-equivalent for a category of dischargers under the high-end scenario. See EA at pg. 4.

(\*2) In addition, pollutant load reductions were not calculated or credited for any pollutant for which an alternative regulatory approach was pursued. Id.

(\*9) "A minimum data set of eight specified facilities is required for criteria development (details are given in the 1985 Guidelines, page 22). The eight specific families are intended to be representative of a wide spectrum of aquatic life. For this reason it is not necessary that the specific organisms tested be actually present in the water body. States may develop site-specific criteria using native species, provided that the broad spectrum represented by the eight families is maintained. All aquatic organisms and their common uses are meant to be considered, but not necessarily protected, if relevant data are available." CTR Preamble at pg. 42168.

Response to: CTR-054-045

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Comment ID: CTR-056-015b

Comment Author: East Bay Municipal Util. Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: C-24 Site Specific Criteria

References: Letter CTR-056 incorporates by reference letter CTR-054

Attachments? N

CROSS REFERENCES I-01

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Comment: Third, regarding the criteria being proposed for adoption in the draft CTR, EBMUD recommends that EPA should:

\* Should clearly recognize within the CTR that the existing, approved Basin Plan for the San Francisco Bay includes requirements specifically designed to address wet weather overflows and grants provisions for exemptions where an inordinate burden would be placed on the discharger relative to the beneficial uses protected. It should also be acknowledged through inclusion in the CTR that the requirements and applicable exemptions previously justified and approved by EPA and the State should not be affected by the proposed rule.

Response to: CTR-056-015b

EPA disagrees that the CTR must specifically acknowledge implementation provisions in the San Francisco Bay Basin Plan which are designed to address wet weather overflows. EPA also disagrees with any suggestion that such provisions be included in the CTR itself. The CTR is promulgated to add numeric criteria for priority toxic pollutants where they did not exist. The CTR does not modify existing Basin Plan implementation provisions, which remain in effect if they were duly adopted under State law,

although the application of Basin Plan compliance schedule provisions may be affected by the compliance schedule provisions in the CTR. (EPA notes, however, that wet weather implementation provisions, which were adopted in the San Francisco Bay Regional Board 1995 Basin Plan amendments, have not been approved by EPA.) Although the State cannot use implementation provisions such as variances to modify federal standards, EPA intends to stay applicable CTR criteria if the State adopts its own criteria and EPA has approved them. (See response to CTR-016-002.) EPA is also working with the State and other stakeholders to address issues related to water quality-based permitting in municipal stormwater permits.

See also the response to CTR-016-001.

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Comment ID: CTR-057-010c  
Comment Author: City of Los Angeles  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-24 Site Specific Criteria  
References:  
Attachments? N  
CROSS REFERENCES K-01  
G-07

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Comment: Implementation

Although the proposed Rule discusses implementation issues such as TMDLs, variances, SSOs, and interim permits, it lacks evidence of support for any of these provisions. We believe that this will have the effect of reducing the State's confidence or perceived authority in granting any of these provisions to individual POTWs. For example, Page 42186 of the CTR lists six criteria that must be used by the State to determine the non-attainability of a water quality standard; we are doubtful that any of these criteria would be strictly applicable to our facilities with respect to lindane and DDT. We believe CTR variance criteria should include economic considerations for specific discharger implementation efforts. Unless the EPA provides more support for these provisions, we fear that the State will either not grant us a legitimate variance or will waiver in its commitment to act at all.

Response to: CTR-057-010c

EPA disagrees that the CTR should revise the variance criteria or provide more support for implementation provisions. The CTR is promulgated to add numeric criteria for toxic pollutants in waters of the U.S. in California where they did not exist. The CTR does not modify existing requirements of 40 CFR Part 131, which applies nationally. Those requirements limit the use of variances to six grounds (the six "criteria" referred to by the commenter), which are merely reiterated in the Preamble to the proposed CTR. (62 Fed.Reg. 42186.) The CTR also does not include its own variance provisions. However, the CTR does not modify existing State implementation provisions (including those in Basin Plans), which remain in effect if they were duly adopted under State law (although the application of Basin Plan compliance schedule provisions may be affected by the compliance schedule provisions in the CTR).

Given the scope of the CTR, the economic considerations proposed by the commenter are not relevant. Under the CWA, EPA cannot base numeric values for ambient water quality criteria on economic considerations, therefore EPA cannot "include economic considerations for specific discharger implementation efforts" in this rule. The State may address the implementation issues identified by the commenter, taking economic considerations into account as consistent with the CWA, in the separate implementation plan, which it is currently developing. EPA notes, however, that use of State implementation provisions such as SSOs and variances would require federal rulemaking to modify CTR criteria affected by such actions. See also the responses to CTR-016-002, and CTR-056-015b.

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Comment ID: CTR-057-011

Comment Author: City of Los Angeles

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-24 Site Specific Criteria

References:

Attachments? N

CROSS REFERENCES

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Comment: Similarly, the proposed Rule provides little support with respect to site-specific objectives. It is not clear, for instance, if a POTW could apply for an SSO once the Rule has been promulgated. The State's Site-Specific Objectives Task Force was adamant that SSOs should be an integral part of a priority-pollutant control plan, yet this philosophy is nowhere in evidence in the CTR. In view of this, we believe that the proposed Rule should specify EPA's intentions to review State-approved SSOs without setting deadlines for SSO submittals. This would allow SSOs to be triggered as needed by events not experienced or anticipated at the present time. We therefore recommend that the EPA add statements into the CTR that provide needed direction for the States in issuing decisions dealing with this any similar implementation options.

Response to: CTR-057-011

EPA disagrees with this comment. We believe that the commenter misunderstood the cautionary language that was part of the proposed rule. The CTR does not preclude state adoption of criteria after the CTR has been promulgated. As EPA stated in the preamble to the proposed CTR, when the State has completed its own process, and EPA approves the State's new or revised criteria, EPA intends to stay the CTR. Similarly, if the State adopts site-specific criteria (including site-specific Basin Plan criteria adopted by Regional Boards which have completed the State review and adoption process), and EPA has approved them based on their individual merits, EPA intends to stay that portion of the CTR that applies more general criteria to the specific site. Each individual stay on a site-specific basis would require federal rulemaking on a case-by-case basis, and generally require more detailed effort on the Agency's part than a statewide stay.

Moreover, it is possible that State-adopted criteria could become effective for CWA purposes within the State even prior to EPA approval or rulemaking, although this would change if a rule that EPA has recently proposed is promulgated as proposed. The "Alaska Rule," 64 Fed.Reg. 37072, July 9, 1999. Until the Alaska Rule goes final, the State could adopt new or revised standards which are more stringent than the CTR, and those standards would be effective for CWA purposes within the state without any

EPA action. Moreover, prior to a final Alaska Rule, the State could adopt statewide standards, and if EPA approved those standards and stayed the CTR based on them, then subsequent site-specific criteria would apply within the State when adopted by the State without requiring additional EPA approval or rulemaking. If the Alaska Rule becomes final as proposed, however, regardless of whether the CTR has been stayed, only state-adopted criteria which are more stringent than the otherwise applicable standards could be applied within the State, prior to EPA approval of those standards.

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Comment ID: CTR-060-006

Comment Author: San Diego Gas and Electric

Document Type: Electric Utility

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-24 Site Specific Criteria

References:

Attachments? N

CROSS REFERENCES

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Comment: PROVISIONS SDG&E DOES NOT SUPPORT

As described in the following comments SDG&E does not support the following provisions:

Site specific water quality criteria

The preamble states that, "EPA ... cautions California and the public that promulgation of this federal rule removes most of the flexibility available to the State for modifying its standards on a discharger specific or stream-specific basis" and that, "EPA has not incorporated either ... [variance or site-specific criteria development procedures] in this proposed rulemaking, that EPA has not generally authorized State modifications of federal water quality standards" determining that "these types of modifications will, in general, require federal rulemaking on a case by case basis..." (see 62 Fed. Reg. at 42186, Cols. 2 and 3). Otherwise, the federal criteria must be used over a state approved site-specific criteria where it is the more stringent and promulgated before state approval. (see 62 Fed. Reg. at 42165, Col. 3).

However, EPA clarifies that the proposal criteria are not based on a "pollutant-specific, waterbody-by-water body" evaluations. (see 62 Fed. Reg. at 42166, Col. 3 and at 42617, Col. 1). Analysis was conducted, generally speaking, utilizing eight specific families to represent a wide spectrum of aquatic life and which are not necessarily present in water bodies subject to the proposed criteria. (see 62 Fed. Reg. at 42168, Col. 2). Indeed, EPA acknowledges that the proposed criteria rely upon "several individual factors which make the criteria somewhat overprotective or underprotective." (see 62 Fed. Reg. at 42168, Col. 1).

The proposed rule should incorporate policy and procedures by which site-specific criteria approved by the state (after rule promulgation) may be approved by EPA, though the criteria may be less stringent than in the proposed rule. In addition, the proposed rule should not preclude California from adopting water quality criteria utilizing pollutant-specific, water-body specific or other scientifically sound factors which are less stringent than those in the proposed rule (e.g., beyond WERs) which will prevail when the proposed rule is stayed and ultimately extinguished. Otherwise discharges may be subject to unnecessarily stringent and overprotective effluent limits combined with the application of the

anti-backsliding rule.

Response to: CTR-060-006

EPA disagrees with this comment. We believe that the commenter misunderstood the cautionary language that was part of the proposed rule. The CTR does not preclude state adoption of criteria after the CTR has been promulgated. As EPA stated in the preamble to the proposed CTR, when the State has completed its own process, and EPA approves the State's new or revised criteria, EPA intends to stay the CTR. Similarly, if the State adopts site-specific criteria (including site-specific Basin Plan criteria adopted by Regional Boards which have completed the State review and adoption process), and EPA has approved them based on their individual merits, EPA intends to stay that portion of the CTR that applies more general criteria to the specific site. Each individual stay on a site-specific basis would require federal rulemaking on a case-by-case basis, and generally require more detailed effort on the Agency's part than a statewide stay.

Moreover, it is possible that State-adopted criteria could become effective for CWA purposes within the State even prior to EPA approval or rulemaking, although this would change if a rule that EPA has recently proposed is promulgated as proposed. The "Alaska Rule," 64 Fed.Reg. 37072, July 9, 1999. Until the Alaska Rule goes final, the State could adopt new or revised standards which are more stringent than the CTR, and those standards would be effective for CWA purposes within the state without any EPA action. Moreover, prior to a final Alaska Rule, the State could adopt statewide standards, and if EPA approved those standards and stayed the CTR based on them, then subsequent site-specific criteria would apply within the State when adopted by the State without requiring additional EPA approval or rulemaking. If the Alaska Rule becomes final as proposed, however, regardless of whether the CTR has been stayed, only state-adopted criteria which are more stringent than the otherwise applicable standards could be applied within the State, prior to EPA approval of those standards.

EPA notes that State-adopted criteria (including site-specific criteria) which are less stringent than CTR criteria may be approved by EPA and result in a stay of the CTR if such criteria are based on sound scientific rationale which ensures that designated uses will be protected.

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Comment ID: CTR-086-004e

Comment Author: EOA, Inc.

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org: California Dent

Document Date: 09/26/97

Subject Matter Code: C-24 Site Specific Criteria

References: Letter CTR-086 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES G-01; C-22; G-09; C-24a; K-03; G-04; G-05; G-02

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Comment: Regulatory Flexibility and Relief

CDA supports language in the CTR Preamble that references and endorses recommendations of the State Task Forces including in part the use of.

\* reasonable potential analyses \* dissolved metals criteria \* translators \* water effects ratios \* site

specific objectives \* innovative TMDL processes such as effluent trading \* performance based interim limits \* chronic and acute mixing zones, and \* compliance schedules in NPDES permits.

Response to: CTR-086-004e

EPA appreciates this commenter's support for EPA's ongoing efforts to support State water quality standards development.

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Comment ID: CTR-090-018

Comment Author: C&C of SF, Public Util. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24 Site Specific Criteria

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

**CROSS REFERENCES**

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Comment: Site-specific criteria - p 42165. State-Adopted Site-Specific Criteria with EPA Approval - This section requests information on previously adopted site-specific criteria. The Basin Plan for the San Francisco Bay Area includes such criteria in narrative form in Chapter 4 (page 4-15, Wet Weather Overflows) in order to implement the Combined Sewer Overflow Control Policy (50 FR 18688).

Response to: CTR-090-018

EPA disagrees with any suggestion that narrative wet weather overflow provisions in the San Francisco Bay Basin Plan be addressed by the CTR. The CTR is promulgated to add numeric criteria for priority toxic pollutants where they did not exist. The CTR does not modify existing Basin Plan implementation provisions, or other narrative Basin Plan provisions, which remain in effect if they were duly adopted under State law. (EPA notes, however, that such provisions, which were adopted in the San Francisco Bay Regional Board 1995 Basin Plan amendments, have not been approved by EPA.)

In inviting commenters to identify existing State site-specific criteria (page 42165 of the preamble to the proposed CTR, 62 Fed.Reg.42160) EPA intended to seek identification only of numeric site-specific criteria. EPA regrets any misunderstanding which omission of the term "numeric" may have caused, but believes that the preamble to the proposed rule clearly explained the scope of the CTR, such that it would be clear that the CTR would not withhold promulgation of numeric criteria in favor of State narrative provisions, nor would the CTR incorporate existing State narrative criteria provisions.

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Comment ID: CTR-092-010

Comment Author: City of San Jose, California

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-24 Site Specific Criteria

References: Letter CTR-092 incorporates by reference letter CTR-035

Attachments? Y

## CROSS REFERENCES

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### Comment: State Adoption of Site Specific Criteria

The preamble recognizes that the State has the discretion to develop site-specific criteria when appropriate for example, when statewide criteria appear over or underprotective of designated uses. Under California law, site specific criteria are adopted as amendments to regional Basin Plans, which are then reviewed by the State Water Resources Control Board (SWRCB) and the Office of Administrative Law. These criteria are then submitted to the, EPA Regional Administrator for review and approval under Clean Water Act Section 303. The City recommends that EPA formally adopt a policy in the CTR to continue and support this regulatory process, specifically during the interim period as the State develops its statewide water quality framework. The City also requests that EPA Region IX conduct prompt reviews of all currently submitted site-specific data, together with timely reviews of site-specific data submitted with these comments and any site-specific data submitted in the future. The City has attached its recently completed site-specific water quality investigation for copper in South San Francisco Bay for formal review by Region IX and inclusion in the record of this rulemaking (Attachment 3).

The City also urges EPA to revise language in the preamble limiting the use of the site-specific criteria process after federal promulgation and prior to a decision on any State adopted site-specific criteria. We also urge EPA to revise the statement that the more stringent of the two criteria would be used for water quality programs, in the event of two promulgations. Such language severely limits this regulatory approach, and State flexibility in the development of scientifically defensible site-specific criteria. The City reiterates its recommendation that EPA develop a viable policy which supports site-specific criteria development, that ensures EPA's continued review and oversight process, and that emphasizes scientific defensibility and not the stringency of the value produced.

### Response to: CTR-092-010

OEPA disagrees with this comment. We believe that the commenter misunderstood the cautionary language that was part of the proposed rule. The CTR does not preclude state adoption of criteria after the CTR has been promulgated. As EPA stated in the preamble to the proposed CTR, when the State has completed its own process, and EPA approves the State's new or revised criteria, EPA intends to stay the CTR. Similarly, if the State adopts site-specific criteria (including site-specific Basin Plan criteria adopted by Regional Boards which have completed the State review and adoption process), and EPA has approved them based on their individual merits, EPA intends to stay that portion of the CTR that applies more general criteria to the specific site. Each individual stay on a site-specific basis would require federal rulemaking on a case-by-case basis, and generally require more detailed effort on the Agency's part than a statewide stay.

Moreover, it is possible that State-adopted criteria could become effective for CWA purposes within the State even prior to EPA approval or rulemaking, although this would change if a rule that EPA has recently proposed is promulgated as proposed. The "Alaska Rule," 64 Fed.Reg. 37072, July 9, 1999. Until the Alaska Rule goes final, the State could adopt new or revised standards which are more stringent than the CTR, and those standards would be effective for CWA purposes within the state without any EPA action. Moreover, prior to a final Alaska Rule, the State could adopt statewide standards, and if EPA approved those standards and stayed the CTR based on them, then subsequent site-specific criteria

would apply within the State when adopted by the State without requiring additional EPA approval or rulemaking. If the Alaska Rule becomes final as proposed, however, regardless of whether the CTR has been stayed, only state-adopted criteria which are more stringent than the otherwise applicable standards could be applied within the State, prior to EPA approval of those standards.

EPA notes that State-adopted criteria (including site-specific criteria) which are less stringent than CTR criteria may be approved by EPA and result in a stay of the CTR if such criteria are based on sound scientific rationale which ensures that designated uses will be protected.

This commenter also urged EPA to act, prior to finalizing the CTR, to approve or disapprove any State-adopted site-specific criteria which had been submitted to EPA but EPA had not yet acted upon. This has not been possible, due to the focus of resources on the CTR itself. However, in the final CTR, EPA has made revisions to ensure that EPA-approved State-adopted site-specific criteria shall remain in effect and not be superseded by CTR criteria for the same pollutants for those waters of the Bay where such site-specific criteria are currently in effect. See response to CTR-016-001.

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Comment ID: CTRH-001-047  
Comment Author: Michael Lozeau  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: S.F. Bay/Delta Keeper  
Document Date: 09/17/97  
Subject Matter Code: C-24 Site Specific Criteria  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: MR. LOZEAU: I'm Michael Lozeau. I'm the executive director of San Francisco Baykeeper and Deltakeeper.

I've done a preliminary review of the rule. But with that in mind, I'm just going to list all our current concerns. I'll start with the simplest perhaps and work my way towards the more complicated ones.

The first thing I noticed in the rule is there's some deference to regional boards, regional board standards that have been issued and approved by EPA. But there's no full listing in the proposed rule, and there's a suggestion that the burden is on the board to come forward and remind EPA of the standards it's already looked at and approved.

I would urge EPA to be proactive about that, so that representatives from regional boards, from all nine regional boards, don't have to make sure that they remind you of the standards that already exist before you perhaps wipe them out with this new rule, especially in the Bay Area where we have a number of standards which have been applied and do exist, which I think would be more appropriate certainly for the Bay Area than a statewide standard.

Response to: CTRH-001-047

EPA believes that it has addressed this comment, particularly with regards to San Francisco Bay. (See responses to CTR-016-001 and CTR 016-002.) EPA approved, State-adopted site-specific criteria for

waterbodies other than San Francisco Bay were not identified in response to the proposed rule, and EPA was unable to obtain a comprehensive listing of such other criteria. For these reasons, EPA has not "promulgated around" any site-specific criteria other than those in San Francisco Bay identified in the final CTR and those discussed in the preamble to the proposed CTR (62 Fed.Reg. 42165-42166), which are also identified in the final CTR. This is consistent with the approach set forth in the Preamble to the proposed CTR. (62 Fed.Reg. 42165.)

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Subject Matter Code: C-24a SSC Water Effect Ratios

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Comment ID: CTR-003-001

Comment Author: City of Riverside

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: C-24a SSC Water Effect Ratios

References:

Attachments? N

CROSS REFERENCES

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Comment: 1) The placement of the WER in the equation for the calculation of criteria is an excellent idea which, given affordable implementation methods, should better tailor the criteria to the site. We would, however, appreciate clearer definition as to how this is to be implemented. Will the EPA approve WER study plans and results or is the State the lead agency? Do WER's need to be placed in basin plans or is this similar to total dissolved ratios which are permitting issues versus objective setting issues?

Response to: CTR-003-001

The rule promulgates a default WER of 1. The rule states that if other than a WER of 1 will be used, it must be developed in accordance with EPA's WER guidance or the State's methodology, after that methodology has been adopted as part of the State's water quality planning process and approved by EPA. WERs developed under one of these processes are not subject to further EPA review and approval.

WERs may be used on a water body basis for a particular pollutant or as part of a permit for an individual discharger for a specific pollutant. EPA encourages the State (and dischargers) to develop and use WERs on a water body basis, since this approach is technically sound, and efficient use of resources, and allowable for the NPDES permitting authority. WERs developed on a water body basis should be included and adopted in the appropriate Regional Water Quality Control Board Basin Plan. WERs that are developed on a permit basis are subject to the NPDES permit approval process.

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Comment ID: CTR-004-004b

Comment Author: South Bayside System Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-24a SSC Water Effect Ratios

References:

Attachments? N

CROSS REFERENCES G-05

C-22

C-09

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Comment: Despite the problems addressed above there are provisions of the CTR that SBSA supports,

including:

- \* EPA's policies and guidance regarding the use of mixing zones and dilution
- \* Use of water effects ratios (WERs) for determining site specific criteria
- \* Inclusion of metals criteria expressed as dissolved rather than total recoverable
- \* Allowing permit writers the use of any of the methods in EPA's guidance document on the use of translators

Response to: CTR-004-004b

EPA acknowledges the commenter's support.

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Comment ID: CTR-005-003b  
Comment Author: Novato Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/23/97  
Subject Matter Code: C-24a SSC Water Effect Ratios  
References:  
Attachments? Y  
CROSS REFERENCES C-22  
C-01a  
G-09  
G-05  
G-04

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Comment: 2. The following provisions of the rule are supported: (1) adoption of metals criteria as dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury; and (4) the Preamble discussions regarding metals translators, mixing zones, and interim permit limits.

Response to: CTR-005-003b

EPA acknowledges the commenter's support.

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Comment ID: CTR-017-002b  
Comment Author: Santa Ana River Discharger Ass  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-24a SSC Water Effect Ratios  
References:

Attachments? Y

CROSS REFERENCES C-22

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Comment: Because the California Toxics Rule uses the same approach as the UAA in setting water quality objectives for cadmium and copper, SARDA strongly supports the CTR objectives for those metals. We also agree with EPA's written statements acknowledging the binding character of organic carbon and the role it plays in rendering heavy metals non-toxic. We enthusiastically endorse the agency's decision to include Water Effects Ratio as a formal factor to be considered when formulating water quality objectives. It will do much to adjust national criteria to local conditions.

Response to: CTR-017-002b

EPA acknowledges the commenter's support.

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Comment ID: CTR-020-005

Comment Author: City of Stockton

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-24a SSC Water Effect Ratios

References:

Attachments? Y

CROSS REFERENCES

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Comment: II. Use of New Scientific Information

The City acknowledges and supports EPA's update of several water quality criteria including those for mercury, cadmium and arsenic. While a number of criteria were updated to reflect current scientific information, there are a few notable exceptions. The following briefly addresses the key updates and omissions that should be addressed in the final publication of this rule.

2. Water Effects Ratio The preamble explains that the intent of the metals criteria is to control the bioavailable fraction of the metal. Because there is no reliable analytical procedure to measure the bioavailable fraction, most acute and chronic metals criteria are now applied as dissolved criteria and a water effects ratio ("WER") is included as part of the criteria to properly adjust the analytical measurement to reflect the bioavailable fraction. Contrary to the statement that the metals criteria are only intended to address bioavailable metals, the preamble states that acceptance of a WER study is discretionary. This is inappropriate and must be amended in the final rule publication. EPA should not be suggesting that Regional Boards may ignore relevant scientific information.

EPA has also dictated use of the Agency's Interim Guidance on the Determination and Use of Water-Effect Ratios (the "WER Guidance") which is very conservative and costly to follow. Moreover, WER guidance is not designed to address short term events such as storm water discharges. Given that the duration of the tests required to be used greatly exceeds the duration of storm water events, it is apparent that the WER guidance should not be applied to these conditions without considerable modification. The recent Society for Environmental Toxicology and Chemistry ("SETAC") evaluation of EPA metals criteria and implementation policies (entitled "Reassessment of Metals Criteria for Aquatic

Life Protection" [1996]) recommends that whole effluent bioassays using metal sensitive organisms be used to determine the appropriateness of applying EPA's metal criteria to derive stringent effluent limitations. The use of complex and expensive WER tests is not necessary as the use of metal sensitive organisms (such as daphnids), which were originally used to calculate EPA's criteria, will reliably assess whether or not the metals present in the sample are in a bioavailable form. Senior EPA officials were involved in preparing the SETAC recommendation, and the publication is intended to reflect to consensus of the nationally recognized experts on this subject. The Agency has in the past relied upon these same experts in updating the EPA's metals criteria (e.g., the January 1993, EPA-sponsored scientific workshop on the development and implementation of metals criteria in Annapolis, Maryland [the "Annapolis Conference"]).

Because of the excessive cost and time necessary to conduct detailed WER tests in accordance with EPA's published guidance, more simplified and appropriate procedures need to be established. The metals criteria should include a screening procedure which will allow the use of metal sensitive organisms to assess whether or not the metal is in a bioavailable form. If the metal is not bioavailable, then the permitting authority should not establish limitations based upon EPA's criteria.

Response to: CTR-020-005

EPA does not mean to suggest in its language concerning WERs, that California Regional Water Quality Control Boards ignore relevant scientific information. Rather, EPA's intent is simply to clarify that the State has the authority to approve or disapprove site-specific determinations of WER values, derived with methodology approved by EPA.

Additionally, EPA does not mean to suggest that the Agency's "Interim Guidance on the Determination and Use of Water-Effect Ratios" is the only available methodology for determining WERS, as discussed further in the response to CTR-020-006. See also the response to CTR-003-001 for discussion of the general approach for implementation. The commenter wants a simpler EPA WER guidance but does not suggest how to do this and why it would be scientifically defensible.

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Comment ID: CTR-020-006

Comment Author: City of Stockton

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-24a SSC Water Effect Ratios

References:

Attachments? Y

CROSS REFERENCES

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Comment: II. Use of New Scientific Information The City acknowledges and support EPA's update of several water quality criteria including those for mercury, cadmium and arsenic. While a number of criteria were updated to reflect current scientific information, there are a few notable exceptions. The following briefly addresses the key updates and omission that should be addressed in the final publication of this rule.

(a) Water Effect Ratio Approach is Mathematically Flawed

As part of the CTR, EPA has required that the Agency's February 22, 1994 water effects ratio procedure be used to appropriately adjust the dissolved metals criteria to reflect the bioavailable fraction. See, WER Guidance. Since the issuance of that document, EPA has prepared an internal evaluation of the reasonableness of the WER Guidance (Delos: "Probabilistic Analysis of the Level of Protection Provided by the Interim Guidance on Determination of Water Effect Ratios" [March 1994]). That analysis found:

...the Guidance procedures tend to produce a lower WER than the unbiased WER... the option favored in the February 22 cover memo to the Guidance is particularly biased (by a factor of 2-4)...

Thus, it is apparent that EPA is aware that the published WER Guidance is flawed and will lead to calculation of unnecessarily restrictive limitations under the most common circumstances where the procedure is applied (low dilution receiving waters). Given this information, it is clearly inappropriate for EPA to mandate the use of the 1994 WER Guidance as the basis for determining all WERs under the CTR.

In addition to those issues identified in EPA's internal review, the procedures outlined in the WER Guidance contain a major, conceptual, technical error that will lead to routine miscalculation of the WER. This error was first brought to EPA's attention in September 1992 by Dr. Herb Allen, one of the nation's leading experts on metals speciation (Exhibit 1).

The basic technical oversight of the WER Guidance is that organometallic complexing manifests itself as a non-linear titration, not a linear ratio. This mode of action was verified decades ago by many researchers. On behalf of EPA, DiToro also verified this phenomenon during EPA's sediment criteria research, and it is the underlying principle in using acid volatile sulfide levels as the indicator of when metals may exhibit toxicity. As discussed in Dr. Allen's most recent analysis (Exhibit 2), metals will not exhibit toxicity where the amount of binding sites is stoichiometrically in excess of the available metal. This is demonstrated by Figure 6 contained in Exhibit 2 for a range of ligand concentrations. Both the acute and chronic criteria will be increased by a specific fixed amount, not a ratio. Thus, the proper way to account for metals inactivation measured by a WER procedure is arithmetically, not multiplicatively.

The error in the appropriate adjustment to the criteria increases as the LC50 used to calculate the WER becomes increasingly greater than the chronic criteria that is being adjusted by the WER. Given that the chronic criteria is always less than the LC50 used to adjust the criteria, EPA's WER procedure will always produce an inappropriately low adjustment factor. The following examples illustrate the magnitude of the error that may occur by using a multiplicative rather than additive approach. The first example is typical of EPA's copper criteria. Where the laboratory derived LC50 is 20 ug/l and the effluent influenced LC50 is 60 ug/l, a WER of three (3) would be calculated. These same data verify that a 40 ug/l copper binding capacity is exhibited by the effluent influenced sample.

Under EPA's procedure, a chronic criteria adjustment to 18 ug/l would occur (assuming 6 ug/l chronic criteria) although the actual chronic endpoint is 46 ug/l based on the titration effect. Thus, EPA's approach is in error by a factor of 2.55 or 155 percent. The criteria calculation error becomes even more dramatic as the acute/chronic ("A/C") ratio is increased. For pollutants such as lead with a high A/C ratio (about 50), the error would easily be a factor of 50 because acute tests are used to calculate the WER. The solution to the problem is straightforward: EPA should inform the public that the binding capability of the mixture should be determined arithmetically (one may geometrically average the results consistent with the acute and chronic criteria development) and add this to the chronic test result to produce the proper instream criteria.

Finally, the WER Guidance is in error in its expensive requirement that WERs be conducted for a series of dilutions under the concern that the WER may decrease more rapidly than the dilution increases. As demonstrated by Dr. Allen in Figure 3, Exhibit 2, organometallic binding is not linear. Binding does not decrease more rapidly or even as rapidly as dilution even for binding agents with relatively low stability constants. Thus, if the pollutant is demonstrated to be non-toxic at low dilution, one may fully expect the pollutant to remain non-toxic as dilution increases. Recognition of this phenomenon can greatly simplify the WER procedures and reduce the exorbitant costs of running all the tests outlined in the WER Guidance.

Based upon these and other concerns, the proposed rule should delete the requirement to utilize the WER Guidance for all WER analyses. As requested and supported by the available technical information, the CTR should allow for use of simplified approaches to adjusting the proposed metals criteria.

Response to: CTR-020-006

EPA disagrees that it has mandated or required the use of the Agency's "Interim Guidance on the Determination and Use of Water-Effect Ratios". As an alternative to following this guidance the rule specifically provides the option of using "other scientifically defensible methods adopted by the State as part of its water quality standards program and approved by EPA."

The commenter recommends use of what could be called a "water-effect difference" (WED), although this particular terminology is not used in the comment. If the test species exhibited effects at concentrations near the criterion, the WED would yield the same result as the WER. If the test species exhibited effects at concentrations significantly above than the criterion, then the WED would yield a different result than the WER. Under certain conditions (e.g., metals interacting with strong binding agents), the WED calculation will yield an accurate result, while the WER will yield an over-protective result. Under other conditions (e.g., metals interacting with weak ligands) the WED will yield an under-protective result, while the WER will yield an accurate result. Analysis of the behavior of EPA's current guidance indicates that it often tends to yield conservative results.

With regard to the issue of the complexity and expense involved in of the WER procedure, EPA has been cooperating with states and dischargers who are experimenting with simplified procedures that yield the essential information using fewer samples ([Date] letter from Evelyn S. MacKnight, EPA Region 3, to James Newbold, Pennsylvania Dept. of Environ. Protection). Furthermore, EPA is developing a biotic ligand modeling approach that will determine the appropriate site-specific criteria adjustment solely from site-specific chemical measurements. Because the state of the science is moving forward in this area, EPA has provided for the use of alternative procedures, and anticipates that future developments will yield procedural improvements approvable under the rule. EPA believes that the current guidance on WERs yields dependable results, but that the upcoming biotic ligand model will simultaneously improve the accuracy of site-specific criteria adjustments (eliminating the above described WER versus WED issue) and simplify their derivation. EPA thus believes that the rule's provisions, coupled with its ongoing scientific development efforts, are directly responsive to the issues raised in the comment.

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Comment ID: CTR-021-002b

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: C-24a SSC Water Effect Ratios

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES G-04

C-22

K-01

G-05

G-02

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Comment: Sunnyvale is very supportive of many fine concepts advanced in the proposed CTR, and we join with CASA/Tri-TAC in complimenting the Agency on its proposed positions with regard to such matters as: (a) the use of interim effluent limitations in NPDES permits during the pendency of TMDL and other special studies; (b) the allowance of water effects ratios in adjusting the criteria for metals without the necessity for additional rulemaking to establish site-specific objectives; (c) the use of the dissolved state for the metals criteria; (d) the use of cooperative, intergovernmental, and stakeholder-involved approaches towards the development of TMDLs;(e) the allowance of dilution for both chronic and acute pollutants; and (f) the allowance of compliance schedules in NPDES permits.

Response to: CTR-021-002b

EPA acknowledges the commenter's support.

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Comment ID: CTR-027-012b

Comment Author: California SWQTF

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24a SSC Water Effect Ratios

References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040

Attachments? N

CROSS REFERENCES C-22

C-01a

G-09

G-05

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Comment: PROVISIONS OF THE PROPOSED RULE WE SUPPORT

Notwithstanding the above comments, we believe there are certain elements of the proposed rule with respect to establishing water quality standards that we can support:

- \* Metal criteria expressed in the dissolved fraction rather than expressed in the total recoverable fraction.
- \* Metal criteria that are developed as a function of the water-effect-ratio (WER).
- \* The current proposed human health criterion for mercury.

\* The current preamble language regarding metal translators and mixing zones.

We believe the above provisions provide a more acceptable, scientific approach to the water quality-based pollution control approach. We recommend these provisions of the current rule remain as proposed.

Response to: CTR-027-012b

EPA acknowledges the commenter's support.

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Comment ID: CTR-032-002d

Comment Author: Las Gallinas Val. Sanitary Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24a SSC Water Effect Ratios

References: Letter CTR-032 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES G-01

C-22

G-09

C-24

K

G-04

G-05

G-02

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Comment: Regulatory Flexibility and Relief

The District supports EPA's use of "sound science" and current data in developing the proposed criteria in the California Toxics Rule (CTR). The District strongly supports language in the Preamble that references and endorses recommendations of the State Task Forces including use in permitting of:

\* reasonable potential analyses \* dissolved metals criteria \* translators \* water effects ratios \* site specific objectives \* innovative TMDL processes such as effluent trading \* performance based interim limits \* chronic and acute mixing zones, and \* compliance schedules in NPDES permits.

Response to: CTR-032-002d

EPA acknowledges the commenter's support.

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Comment ID: CTR-034-009

Comment Author: SCAP

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24a SSC Water Effect Ratios

References: Letter CTR-034 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES

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Comment: \* SCAP also supports EPA's proposal to include in the proposed rule a default water effects ratio (WER) value of 1.0 unless a site-specific WER is developed, and EPA's policy of allowing the approval of site-specific WERs without a formal rulemaking process to modify the CTR. We also agree with EPA'S policy to allow the development of site-specific WERs in accordance with EPA's technical guidance on WERs or using other scientifically defensible methods.

Response to: CTR-034-009

EPA acknowledges the commenter's support.

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Comment ID: CTR-035-002h

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24a SSC Water Effect Ratios

References:

Attachments? N

CROSS REFERENCES C-22

C-01a

C-08a

G-05

G-04

G-09

K-01

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Comment: Second, we commend EPA for its inclusion in the CTR of several innovative and flexible regulatory approaches, such as metals criteria expressed as dissolved rather than total recoverable concentrations, and the revised human health criterion for mercury. In addition, in light of the issues surrounding the human health criteria for arsenic we support EPA's decision not to promulgate human health criteria at this time. With respect to implementation issues discussed in the Preamble, we support EPA's policies and guidance regarding the application of mixing zones and dilution credits. the use of interim permit limits while Total Maximum Daily Loads (TMDLs) and other special studies are being performed, and EPA's guidance to Regional Water Quality Control Boards (RWQCBs) that they may use any of the methods described in EPA's guidance document on the use of translators. We also support EPA's proposal to create a rebuttable presumption for Water Effects Ratios (WERs), allowing the RWQCBs and SWRCB to develop site-specific WERs that can be approved by EPA during the NPDES permit approval process. We believe that this approach will help facilitate the development of appropriate site-specific adjustments for metals criteria.

Response to: CTR-035-002h

EPA acknowledges the commenter's support.

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Comment ID: CTR-035-019  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-24a SSC Water Effect Ratios  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: pp. 42173-42174 - Application of metals Criteria (Water Effect Ratios) We support EPA's proposal to allow the development of site-specific WERs as set forth in EPA's WER guidance or determined by another scientifically defensible method. We also support the application of the WER on a watershed or water body basis to the extent that it is a technically sound and cost-effective approach. However, we would note that there may be instances where a "site" should be defined to be only a portion of a water body or watershed (e.g. the entire San Francisco Bay should not be considered a single "site"). We strongly endorse the inclusion in the proposed rule of a provision, such as was included in the National Toxics Rule, to create a rebuttable presumption of a default WER value of 1.0, unless a site-specific WER is determined. We understand that to mean that an EPA rulemaking process to adopt site-specific WERs would not be required, and that instead, EPA is "pre-authorizing" the use of correctly applied water effect ratios that are approved by the State. (EPA would still have the opportunity to review each WER through the normal NPDES permit approval process.)

Response to: CTR-035-019

EPA agrees with the commenter's discussion. EPA would approve the methodology. The state would approve the WERs derived in accord with the methodology.

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Comment ID: CTR-038-002b  
Comment Author: Sonoma County Water Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-24a SSC Water Effect Ratios  
References:  
Attachments? Y  
CROSS REFERENCES C-22  
C-01a  
G-04  
G-05  
G-09

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Comment: 2. The following provisions of the rule are supported (1) adoption of metals criteria as dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury; and (4) the Preamble discussions regarding metals translators, mixing zones, and interim permit limits.

Response to: CTR-038-002b

EPA acknowledges the commenter's support.

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Comment ID: CTR-040-002a

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24a SSC Water Effect Ratios

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES C-01a

G-09

G-05

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Comment: PROVISIONS SUPPORTED

We support a number of provisions of the Rule, including: (1) adoption of metals criteria as dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury- and (4) the Preamble discussions regarding metals translators and mixing zones. These provisions provide a firmer scientific base for the water quality-based approach to pollution control and are a marked improvement over the old Inland Surface Waters Plan. We would urge EPA to retain these provisions in the final Rule.

Response to: CTR-040-002a

EPA acknowledges the commenter's support.

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Comment ID: CTR-041-003b

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24a SSC Water Effect Ratios

References:

Attachments? N

CROSS REFERENCES G-09

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Comment: Second, the District supports with reservations EPA's proposals on two subjects directly related to dissolved metals criteria, i.e. the proposed guidance on both (1) translators to convert from dissolved metals criteria to total recoverable permit limits and (2) the water-effect ratio (WER) as the method to compare the bioavailability and toxicity of a pollutant in receiving waters and in laboratory waters. Both of these two proposals must be implemented on a site-specific basis using local data, not statewide or watershed-wide data. Translators, however, should be developed whenever a discharger is willing to conduct studies in accordance with EPA-approved methods. The proposed procedure for a default value of 1.0 for a WER should mean that when a site-specific WER is to be determined, an additional EPA rulemaking process would not be required. Instead, this rule should pre-authorize the use of correctly applied WERs that are approved by the State.

Response to: CTR-041-003b

EPA agrees with the comments on translators. EPA does not agree with the comment that WERs cannot be derived on a statewide or watershed-wide basis. Some states have found it useful to pool data from several sites (hydrologically noncontiguous) and project WER values to sites having similar water quality characteristics. Because most pollution control decisions are insensitive to uncertainties in the WER estimation (that is, a range of different possible WER values will yield the same decision), it can be efficient to reserve WER derivations with the greatest site-specificity for those situations where the decision is most sensitive to uncertainties. See also the response to CTR-003-001 for discussion of the general approach for implementing WERs.

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Comment ID: CTR-043-002b  
Comment Author: City of Vacaville  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-24a SSC Water Effect Ratios  
References:  
Attachments? Y  
CROSS REFERENCES C-22  
C-01a  
G-04  
G-05  
G-09

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Comment: 2. The following provisions of the rule are supported: (1) adoption of metals criteria as dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury; and (4) the Preamble discussions regarding metals, translators, mixing zones and interim permit limits.

Response to: CTR-043-002b

EPA acknowledges the commenter's comment.

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Comment ID: CTR-044-003b  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-24a SSC Water Effect Ratios  
References:  
Attachments? Y  
CROSS REFERENCES C-22  
C-01a  
G-09  
G-05  
G-04

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Comment: We have reviewed the proposed CTR and offer the following comments:

2. The following provisions of the rule are supported:
  - (1) adoption of metals criteria as dissolved concentrations;
  - (2) expression of the metals criteria as a function of the water-effect ratio;
  - (3) adoption of the proposed new human health criteria for mercury; and
  - (4) the Preamble discussions regarding metals translators, mixing zones, and interim permit limits.

Were the old human health criterion for mercury (0.012 ug/ l) to be adopted, the City would have to remove its discharge from Tule Canal and go to land disposal. The capital cost to do this would be \$22.1 million and the total present worth cost would be \$23.1 million (see Exhibit B, Required Capital improvements and Costs for Beryllium and Mercury). This would translate to an annual cost of \$3.1 million per year (at 7% over 10 years) and would require that monthly sewer service charges be increased by more than 100%.

Response to: CTR-044-003b

EPA acknowledges the commenter's comment.

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Comment ID: CTR-045-005  
Comment Author: Sausalito-Marín Sanitary Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-24a SSC Water Effect Ratios  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: The District supports many of the items included in the proposed CTR:

EPA's proposal to create a rebuttable presumption for Water Effects Ratios (WER) allowing RWQCBs and the SWRCB to develop site-specific WERs that can be approved by EPA during the NPDES permit approval process.

Response to: CTR-045-005

EPA acknowledges the commenter's support.

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Comment ID: CTR-049-002

Comment Author: WateReuse Assoc. of California

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-24a SSC Water Effect Ratios

References:

Attachments? N

CROSS REFERENCES

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Comment: We applaud and support USEPA's creation in the draft CTR of a rebuttable presumption for Water Effects Ratios (WERs), allowing the Regional Water Quality Control Boards and the State Water Quality Control Board to develop site-specific WERs that can be approved by USEPA during the NPDES permit approval process. WateReuse believes that this flexible approach would help facilitate the development of appropriate site-specific adjustments for metals criteria.

Response to: CTR-049-002

EPA acknowledges the commenter's support.

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Comment ID: CTR-054-002b

Comment Author: Bay Area Dischargers Assoc.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24a SSC Water Effect Ratios

References:

Attachments? Y

CROSS REFERENCES C-22

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Comment: BADA supports adoption of the metals criteria as dissolved concentrations and the expression of the criteria as a function of the water-effect ratio. These changes place the metals criteria on a firmer

scientific base than the old State Plans. Moreover, previous BADA studies have shown that adoption of the copper criterion as total recoverable could cost Bay Area POTWs several billion dollars while reducing copper loads to the Bay by only several percent (see Attachment 1). Further, building the water-effect ratio into the criteria will lessen the administrative burden on all parties when it becomes necessary to pursue the development of such a ratio. For these reasons, it would not be in the public interest nor consistent with Presidential Order 12866 or the Unfunded Mandates Reform Act to adopt the metals criteria as total recoverable concentrations or to require approval of a site-specific objective whenever a water-effect ratio is developed.

Response to: CTR-054-002b

See response to comment number CTR-003-001.

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Comment ID: CTR-056-006

Comment Author: East Bay Municipal Util. Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: C-24a SSC Water Effect Ratios

References: Letter CTR-056 incorporates by reference letter CTR-054

Attachments? N

CROSS REFERENCES

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Comment: Second, EBMUD would like to express to EPA its support for inclusion of:

\* EPA's approach to water effects ratios for determining site specific criteria,

Response to: CTR-056-006

EPA acknowledges the commenter's support.

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Comment ID: CTR-056-009

Comment Author: East Bay Municipal Util. Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: C-24a SSC Water Effect Ratios

References: Letter CTR-056 incorporates by reference letter CTR-054

Attachments? N

CROSS REFERENCES

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Comment: Second, EBMUD would like to express to EPA its support for inclusion of:

\* EPA's proposal to create a rebuttable presumption for Water Effects Ratios (WERS) which permit the

RWQCBs and the SWRCB to develop site-specific WERs that can be approved by EPA during the NPDES permit approval process. This approach should lead to the development of appropriate site-specific adjustments for metals criteria, and

Response to: CTR-056-009

EPA acknowledges the commenter's support.

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Comment ID: CTR-061-014

Comment Author: G. Fred Lee & Associates

Document Type: Academia

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24a SSC Water Effect Ratios

References:

Attachments? Y

**CROSS REFERENCES**

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Comment: Page 42173, third column, first two paragraphs, discuss the water effects ratio approach for adjusting national criteria. This approach does not adequately or reliably incorporate aquatic chemistry into water quality criteria adjustment. The approach tends to over-regulate because of the failure to equilibrate between the chemical forms in ambient waters and those in the test system. The statement in the third paragraph, "This approach is technically sound, an efficient use of resources..." is not appropriate since it leads to over-regulation of chemical constituents in wastewater and stormwater runoff. Enclosed is a summary report "Regulating Copper in San Francisco Bay: Importance of Appropriate Use of Aquatic Chemistry and Toxicology, " (1997) on the over-regulation of Cu in San Francisco Bay that developed due to the inability of the water effects ratio to develop site-specific criteria that properly reflect the toxicity of Cu in San Francisco Bay waters.

Response to: CTR-061-014

EPA does not agree with the commenter that a reasonably accurate water-effect ratio cannot be derived, either using current guidance or using other scientifically sound procedures allowed by the rule. See response to CTR-020-006.

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Comment ID: CTR-066-003

Comment Author: Delta Diablo Sanitation Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-24a SSC Water Effect Ratios

References:

Attachments? N

**CROSS REFERENCES**

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Comment: Our preliminary review of the CTR finds several areas that we believe are positive changes and will enhance the rulemaking. The areas that we support as now written are as follows:

\* The water effects ratios philosophy for determining site-specific criteria.

Response to: CTR-066-003

EPA acknowledges the commenter's support.

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Comment ID: CTR-066-007

Comment Author: Delta Diablo Sanitation Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-24a SSC Water Effect Ratios

References:

Attachments? N

CROSS REFERENCES

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Comment: Our preliminary review of the CTR finds several areas that we believe are positive changes and will enhance the rulemaking. The areas that we support as now written are as follows:

\* The proposal to create a rebuttable presumption for Water Effects Ratios (WERs), allowing the RWQCBs and SWRCB to develop site-specific WERs that can be approved by the EPA during the NPDES permit approval process. This approach will help facilitate the development of appropriate site-specific adjustments for metals criteria.

Response to: CTR-066-007

EPA acknowledges the commenter's support.

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Comment ID: CTR-081-002b

Comment Author: West County Agency

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-24a SSC Water Effect Ratios

References:

Attachments? N

CROSS REFERENCES G-04

G-02

C-22

G-09

C-01a

C-08a

G-05

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Comment: \* There are many aspects of the CTR that we support. These include: a) Application of interim limits while special studies are performed. b) Approach to water effect ratios for determining site specific criteria. c) Inclusion of provision for compliance schedules. However, this should be modified to allow inclusion of compliance schedules of up to 15 years in permits if deemed appropriate by Regional Boards. d) Metals criteria expressed as dissolved rather than total recoverable concentrations. e) EPA's guidance to Regional Boards regarding use of translators. f) EPA's proposal to create a rebuttal presumption for Water Effects Ratios, g) Revised human health criteria for mercury h) Decision to not promulgate human health criteria at this time in light of issues surrounding health criteria for arsenic. i) EPA's policies regarding application of mixing zones and dilution credits.

Response to: CTR-081-002b

EPA acknowledges the commenter's support.

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Comment ID: CTR-085-004  
Comment Author: Camarillo Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-24a SSC Water Effect Ratios  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: On several aspects of the California Toxics Rule, the District is in agreement with CASA and SCAP comments:

\* The EPA's approach to water effect's ratios for determining the site-specific criteria.

Response to: CTR-085-004

EPA acknowledges the commenter's support.

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Comment ID: CTR-085-008  
Comment Author: Camarillo Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-24a SSC Water Effect Ratios  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: On several aspects of the California Toxics Rule, the District is in agreement with CASA and SCAP comments:

\* The EPA's proposal to create a rebuttable presumption for Water Effects Ratios (WER) allowing the RWQCB and the SWRCB to develop site-specific WER that can be approved by the EPA during the NPDES permit approval process. This approach will help facilitate the development of appropriate site-specific adjustments for metal's criteria.

Response to: CTR-085-008

EPA acknowledges the commenter's support.

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Comment ID: CTR-086-004d

Comment Author: EOA, Inc.

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org: California Dent

Document Date: 09/26/97

Subject Matter Code: C-24a SSC Water Effect Ratios

References: Letter CTR-086 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES G-01

C-22

G-09

C-24

K-03

G-04

G-05

G-02

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Comment: Regulatory Flexibility and Relief

CDA supports language in the CTR Preamble that references and endorses recommendations of the State Task Forces including in part the use of.

\* reasonable potential analyses \* dissolved metals criteria \* translators \* water effects ratios \* site specific objectives \* innovative TMDL processes such as effluent trading \* performance based interim limits \* chronic and acute mixing zones, and \* compliance schedules in NPDES permits.

Response to: CTR-086-004d

EPA acknowledges the commenter's support.

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Comment ID: CTR-090-002b  
Comment Author: C&C of SF, Public Util. Commis.  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-24a SSC Water Effect Ratios  
References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054  
Attachments? Y  
CROSS REFERENCES C-17a  
C-22  
G-05  
G-02  
G-04

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Comment: There are many features of the proposed rule which we strongly endorse, specifically:

- \* the use of the latest IRIS values for human health criteria, it is essential that the criteria be based on the latest scientific and environmental information;
- \* recognition that the dissolved fraction of metals, rather than the total recoverable, better reflect the aquatic toxicity of metals;
- \* recognition that for certain metals (e.g. copper and zinc) ambient water chemistry is critical in determining toxicity thereby endorsing the Water Effects Ratio;
- \* recognition and strong endorsement of the multi-tiered mixing zones for acute, chronic and human health effects; and
- \* recognition of interim limits and compliance schedules as appropriate implementation strategies,

Response to: CTR-090-002b

EPA acknowledges the commenter's support.

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Comment ID: CTR-092-004  
Comment Author: City of San Jose, California  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-24a SSC Water Effect Ratios  
References: Letter CTR-092 incorporates by reference letter CTR-035  
Attachments? Y  
CROSS REFERENCES

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Comment: Application of Metals Criteria

The City supports EPA's proposal to provide for the adjustment of metals criteria through the application of the water-effects-ratio (WER) procedure to ensure that such criteria are appropriate for chemical conditions present in the water body. The City agrees with EPA that ideally, the WER process should be applied on a watershed or water body basis in California. However, the City does have sincere concerns with how a watershed and/or waterbody is defined. The City wishes to be on record that a significant body of scientific information supports the contention that San Francisco Bay South of the Dumbarton Bridge (South San Francisco Bay) constitutes a distinct waterbody for purposes of the WER process. Furthermore, the City recommends that the Rule be revised to allow use of the WER procedure to develop site-specific criteria, without requiring a formal rulemaking process.

Response to: CTR-092-004

EPA recognizes the concerns expressed, but believes that the commenter's concerns may be unfounded. The CTR does not define or restrict the boundaries of any California site, or impede the appropriate definition of such boundaries. The rule also does not require or intend to require that the adoption of site-specific WERs go through a formal rulemaking. See the response to CTR-003-001.

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Comment ID: CTR-092-013a  
Comment Author: City of San Jose, California  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-24a SSC Water Effect Ratios  
References: Letter CTR-092 incorporates by reference letter CTR-035  
Attachments? Y  
CROSS REFERENCES C-02b

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Comment: Validity Of The Proposed Copper Criteria For South San Francisco Bay

Attachment 3 to this letter is a technical report entitled "Development of a Site-Specific Water-Effect Ratio for Copper in South San Francisco Bay", dated September 1997 and prepared by the City of San Jose Environmental Services Department.

This attachment is also incorporated as part of our comments and is being submitted for inclusion in the record for this rulemaking. Because EPA is proposing to promulgate water quality criteria for all waterbodies in the State of California, we believe that it is required to consider site-specific data to the extent that it is available, especially, where, as in the case of the submitted data, it appears that there is a less costly/appropriately protective alternative to the proposed criteria.

Response to: CTR-092-013a

EPA disagrees with the commenter. EPA cannot efficiently include all site-specific data in its rulemaking process. Furthermore, EPA does not believe that it is either technically or administratively advantageous or efficient for the rule to specify particular site boundaries or WERs within such boundaries. Nevertheless, because it is necessary to provide for the use of site-specific data collected either before or after promulgation, the rule expresses the criteria in terms of WER values, which like

water hardness, are specified subsequent to the rulemaking. Thus, the rule has a provision allowing the state to consider the data cited by the commenter in this context. See the response to CTR-003-001 for discussion of the general approach for implementation.

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Comment ID: CTRH-001-003b  
Comment Author: Robert Hale  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: CA Stormwater Task Force  
Document Date: 09/17/97  
Subject Matter Code: C-24a SSC Water Effect Ratios  
References:  
Attachments? N  
CROSS REFERENCES C-22  
C-1a

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Comment: In summing up -- not summing up, just as a parting shot -- I do appreciate the fact that in working up the toxics rule here that EPA has done certain things which in fact we see as improvements in actually making the standards fit with what we think -- have come to see as perhaps the actual impacts of the stormwater part of this. And by that, I'm referring to the dissolved metals criteria and the water effect ratio in there, and the human health criteria revisions for mercury and the other -- the other items.

I appreciate some of the stuff in there, and -- with the exception of the preamble language. And you really need to get that out of there. We're going to pursue this as far as we have to.

I appreciate your hearing me.

Response to: CTRH-001-003b

EPA acknowledges the commenter's support.

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Comment ID: CTRH-001-024d  
Comment Author: Michelle Pla  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: S.F. Public Utilities Com  
Document Date: 09/17/97  
Subject Matter Code: C-24a SSC Water Effect Ratios  
References:  
Attachments? N  
CROSS REFERENCES g-02  
g-05  
c-22  
c-17a

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Comment: MS. PLA: My name is Michelle Pla. I'm with the Public Utilities Commission, City and County of San Francisco.

I made the comment on my card that I also said that I would try to be constructive, and so I'm going to follow my mentor here, Phil Bobel, and say that there are some things in this rule that we're very pleased to see.

We're very pleased to see use of the latest scientific information, particularly the use of latest IRIS, I-R-I-S, numbers-for human health. We're very pleased that you're using dissolved versus total recoverable form for the metals.

We're very pleased to see recognition of the water effects ratios. We're pleased to see recognition for a multi-tiered mixing zone for acute and chronic human health effects and hope that the state pays particular attention to that.

We do have a problem with the way you've described compliance schedules and hope to be working strictly by the state on that as well. We think that the five-year system is fairly shortsighted, and -we can't even do FMDSLs in five years.

Response to: CTRH-001-024d

EPA acknowledges the commenter's support.

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Comment ID: CTRH-001-032a  
Comment Author: Dave Brent  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: CA Water Qual. Task Force  
Document Date: 09/17/97  
Subject Matter Code: C-24a SSC Water Effect Ratios  
References:  
Attachments? N  
CROSS REFERENCES c-22  
g-5

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Comment: I would like to take this time to note that I think it contains some important elements that we agree with and believe are reflective of the impact. These include the uses of dissolved metals and the provisions which will enable the state to use mixing zones and water effects ratios and establish site-specific objectives.

Response to: CTRH-001-032a

EPA acknowledges the commenter's support.

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Comment ID: CTRH-001-039a  
Comment Author: Robert Reid  
Document Type: Public Hearing

State of Origin: CA  
Represented Org: CASA  
Document Date: 09/17/97  
Subject Matter Code: C-24a SSC Water Effect Ratios  
References:  
Attachments? N  
CROSS REFERENCES G-04  
G-02

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Comment: I've been saving the good news for last.

Fourth, and by no means last in priority for CASA, we wish to register our support for several parts of the preamble to the CTR.

We support application of interim limits in NPDES permits while TMDLs and other special studies are being performed.

We also support EPA's approach to water effects ratios for determining site-specific criteria.

We also support the inclusion of a provision allowing the compliance schedules in permits in the rule, although we recommend that it be modified to allow the regional boards to include compliance schedules of up to 15 years in permits, if they deem it appropriate.

Thank you for the opportunity to present our views. As I said earlier, we will be submitting detailed comments on the proposed rule by the end of the comment period, which hopefully will be extended in response to our and others' requests.

Response to: CTRH-001-039a

EPA acknowledges the commenter's support.

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Comment ID: CTRH-001-057b  
Comment Author: Dave Tucker  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: San Jose Env. Serv. Dept.  
Document Date: 09/17/97  
Subject Matter Code: C-24a SSC Water Effect Ratios  
References:  
Attachments? N  
CROSS REFERENCES K-03  
G-04  
G-07  
G-09  
C-22  
G-05

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Comment: Some of the flexibility that the City highly supports is the water effect ratio investigations to adjust statewide criteria to site-specific conditions; the interim limits concept while special studies are being conducted by the dischargers and other entities; a variance procedure to allow dischargers to achieve progress toward effluent limit attainment without violating applicable water quality standards; dissolved criteria for metals to reflect the toxicological conditions; translators to adjust dissolved criteria to total permit limitations; trading programs to attain and maintain water quality; and a mixing zone that reflects true instream pollutant conditions and that protects beneficial uses.

Response to: CTRH-001-057b

EPA acknowledges the commenter's support.

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Subject Matter Code: C-24b SSC Recalculation Procedure

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Comment ID: CTR-009-004

Comment Author: City of Thousand Oaks

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: C-24b SSC Recalculation Procedure

References:

Attachments? Y

**CROSS REFERENCES**

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Comment: At Federal Register, Page 42168, third column, EPA provides that "States may develop site-specific criteria using native species, provided that the broad spectrum represented by the eight families is maintained." In California, as in other arid and semi-arid western states, there are unique aquatic habitats that by their inherent physical chemical and hydrologic nature, are naturally very limited in species diversity as well as density. It would seem that in such cases, what is important and relevant is that the site-specific criteria be most representative of the specific waters and its natural constraints, not that criteria reflect the broad spectrum of species that do not and can not inhabit these waters. The City recommends that the requirement to maintain the eight families broad spectrum be deleted and replaced with a requirement that the site-specific criteria be based upon native species representative of the specific waters in question. In a similar situation, an EPA Administrative Law Judge found that:

"...a proposed test must be reasonably related to determining whether the discharge could lead to real world toxic effects. The Clean Water Act objective to prohibit the discharge of toxic pollutants in toxic amounts concerns toxicity in the receiving waters of the United States, not the laboratory tank."

In the Matter of Metropolitan - Dade County, Miami - Dade Wastewater Authority, NPDES Permit No. FL, Oct., 1996. Certainly, this precept also applies when establishing a water quality criterion that is intended to protect a specific receiving water. That is, to be relevant to the site-specific waters, the criterion upon which discharge permit limitations are to be developed must be based upon species that are representative of the specific waters. The broad spectrum criteria make sense and are reasonable when applied state-wide. But application of broad spectrum criteria to a site-specific situation would seem to be the antithesis of site-specific water quality controls by definition.

Response to: CTR-009-004

In the CTR, EPA is not promulgating a site-specific criteria methodology. EPA's statement on page 42168 column 2 (not 3) is meant to provide guidance on the derivation of site-specific criteria.

EPA agrees with the general concern that its guidance might be incorrectly interpreted to mean that a site-specific taxonomic data set should have more diversity than the site actually has. EPA does not intend for its guidance to be interpreted in this manner.

Nevertheless, because the Rule does not provide for the Recalculation Procedure, the CTR criteria would continue to apply even if California adopted a Recalculation-based site-specific criterion, unless EPA amended the rule not to apply at that site.

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Comment ID: CTR-025-005  
Comment Author: Metro. Water Dist. of So. Cal.  
Document Type: Water District  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-24b SSC Recalculation Procedure  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: The CTR freshwater aquatic life criteria, in general, may not be appropriate for effluent-dominated water bodies and ephemeral streams. Some of these water bodies and the aquatic communities they support exist primarily because of discharges of reclaimed wastewater. Such water bodies are used to transport reclaimed water discharges to a downstream use area and/or are used for the disposal of surplus reclaimed water which occurs when demand is temporarily less than supply. The CTR freshwater aquatic life criteria may create requirements for reclaimed wastewater dischargers which are not economically feasible to meet and could affect the viability of reclamation activities. In Southern California, water reclamation is vital to ensuring a reliable regional water supply.

Response to: CTR-025-005

The commenter here recommends that different uses be adopted for certain waters in California. Designated uses are outside the scope of this rule. EPA has not attempted to determine the beneficial uses or the attainability of designated uses for California in this rule. This rule is to provide criteria for toxic pollutants for California based on the uses established by the State. EPA's criteria will protect these uses.

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Comment ID: CTR-082-005  
Comment Author: City of Burbank  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-24b SSC Recalculation Procedure  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: The subject rule has a significant impact on our facility discharge and the citizens of the City. We therefore present the following comments for your consideration to re-open the comment period for this rule in order to facilitate a more complete review by public and in particular by those in the POTW community:

\* Propose that USEPA should accept separate significantly defensible reasonably achievable aquatic life criteria for streams and creeks that are dominated all or part of the year by discharges from anthropogenic

sources, such as POTWs (i.e., effluent dependent waters).

Response to: CTR-082-005

EPA does not agree. EPA has not developed separate criteria for effluent-dependent waters because these waters have designated uses for human health and/or aquatic life that correspond to the criteria in the rule. However, the State may consider, and EPA encourages, such criteria developments as part of the State's Phase II of the ISWP/EBWP readoption or as part of its RWQCB Basin Plan updates. In the meantime, EPA's criteria will protect all beneficial uses assigned to each inland surface water and enclosed bay and estuary.

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Subject Matter Code: C-24c SSC Santa Ana River

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Comment ID: CTR-033-002

Comment Author: San Bernardino Muncpl Wtr Dept

Document Type: Water District

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24c SSC Santa Ana River

References: Letter CTR-033 incorporates by reference letter CTR-020

Attachments? Y

#### CROSS REFERENCES

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Comment: We support the deletion of site specific objectives for cadmium and copper set for in the 1995 Water Quality Control Plan for the Santa Ana River Basin. We believe the site specific objective for lead in the plan is appropriate and should be approved by the U. S. Environmental Protection Agency. This recommendation is premised on the Santa Ana Regional Water Quality Control Board amending the Basin plan to incorporate revised correction factors and recalculations for this metal based upon the most current U.S. EPA guidance and criteria documents.

Response to: CTR-033-002

We agree with the commenter's support of the Regional Water Quality Control Board, Santa Ana River Basin, and its request that we promulgate water quality standards for cadmium and copper in place of the site-specific standards contained in the 1995 Water Quality Control Plan for portions of the Santa Ana River Basin. The final CTR will continue to reflect that position as expressed in the proposed CTR.

EPA also appreciates the commentor's support of the site-specific criterion for lead in portions of the Santa Ana River Basin which the State has adopted and submitted to EPA for approval. However, EPA has not yet approved this site-specific criterion, and in the absence of EPA-approved State-adopted site-specific criteria, EPA must promulgate CTR criteria to meet the requirements of CWA section 303(c)(2)(B). Nevertheless, where site-specific criteria have already been adopted by the State in accordance with State law, but not yet acted upon by EPA, and those criteria are more stringent than applicable CTR criteria, those are the controlling criteria for CWA purposes even without a stay of the applicable CTR criteria and are thus implementable by the State. (This would not be affected by the "Alaska Rule" which EPA proposed July 9, 1999, 64 Fed.Reg. 37072. See p. 37076.) This is the case with the site-specific criterion for lead adopted by the State for certain waters in the Santa Ana River Basin. Since the State must use the most stringent criteria in effect for its water quality programs, the State may use this site-specific lead criterion notwithstanding the CTR fresh water aquatic life criterion for lead, thus the commenter's concerns should have no practical effect.

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Subject Matter Code: C-24d SSC Effluent Dependent Wtr

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Comment ID: CTR-034-007

Comment Author: SCAP

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24d SSC Effluent Dependent Wtr

References: Letter CTR-034 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES

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Comment: CRITERIA

\* SCAP recommends that EPA adopt separate criteria for water bodies in California that are dependent for all or part of the year on flows from wastewater treatment plants (known as "effluent dependent waters" or EDWs). SCAP believes that there are appropriate ways to modify aquatic life and human health criteria to tailor them to the unique conditions of the EDWs in the arid environment found throughout most of southern California. Potential methods include adjustment of the uncertainty and/or modifying factors used to calculate reference doses (RfDs) for noncarcinogenic human of  $10E-4$  health criteria, use or  $10E-5$  risk levels (instead of  $10E-6$ ) for carcinogenic human health criteria, adjustment of bioconcentration factors for human health criteria, and the use of site-specific water effects ratios for aquatic life criteria. Further comments regarding these methods are included in Attachment 1.

Response to: CTR-034-007

EPA disagrees that it must or should establish separate criteria for effluent dependent waters in this rule. In establishing water quality criteria for California, EPA is implementing section 303(c)(2)(B) of the CWA which requires adoption of criteria for all toxic pollutants for which EPA has issued criteria guidance and for which the discharge of such pollutants could reasonably be expected to interfere with the designated uses adopted by the state. EPA based the criteria contained in the CTR on its most recent national criteria guidance, which are designed to derive criteria that will be protective of aquatic life and human health. As long as a waterbody currently has a designated use for the protection of aquatic life and/or human health, application of the national 304(a) criteria are appropriate for fulfilling section 303(c)(2)(B). As a policy matter, EPA believes that the CTR, a massive undertaking in and of itself, is an essential first step toward reinstating a strong water quality program in California. Under the Clean Water Act, EPA has no obligation to develop such site-specific criteria or the data upon which such site-specific criteria would be based. If, however, the State wishes to develop site-specific criteria or to change the uses of the waterbody -- pursuant to the regulations at 40 CFR Part 131, and "Region 9's Interim Final Guidance for Modifying and Protecting Effluent-Dependent Ecosystems," EPA would consider and possibly approve such a site specific criterion or such a revision to designated uses.

With respect to risk level applicable to human health criteria when, as here, EPA establishes a water quality standard, EPA intends in its discretion to use a risk level of  $1 \times 10^{-6}$ , although the state may in its discretion choose another risk level for protection of human health. If the State has appropriately consulted the public.

With respect to adjustment of bioconcentration factors, the commenter did not explain how or why

bioconcentration factors should be adjusted.

Further, EPA believes that the proposed CTR embodies a number of features that will facilitate the site-specific application of criteria when they are implemented by the state in the future. In proposing an equation rather than a single number for the metals listed in the table in proposed Section 131.38(b)(2) with variables including hardness and water effect ratios (WERs), and in the discussion on the application of metals criteria contained in Section 131.38(c)(4), EPA considers the proposed aquatic life criteria to be highly adjustable to or reflective of site-specific conditions characteristic of EDWs. The inclusion of WERs in these criteria embodies one method of developing water quality objectives for EDWs described in the "Report of the Effluent-Dependent Waters Task Force for Consideration of Issues Related to the Inland Surface Waters Plan" (State Water Resources Control Board, October 1995), which was a broad-based effort to address the specific characteristics of EDWs statewide (see also response to comment number CTR-057-003 below). Another method contained in that report which has been included in the proposed criteria is the use of dissolved metals in lieu of total recoverable metals. Finally, the aquatic life criteria for pentachlorophenol are expressed as a function of pH, allowing for adjustment of the numeric objectives on a site-specific basis.

Furthermore, the above-mentioned report at no point suggests that the resource-intensive task it describes of developing site-specific criteria for EDWs should be carried out by EPA. Rather, on numerous occasions the report recommends that the State or Regional Boards should perform that function. EPA agrees that the appropriate forum for addressing the recommendation in this comment is in subsequent water quality standards revisions carried out by the State, in the adoption of Basin Plans, or in implementation of these criteria in discharge permits or nonpoint source controls.

Potential methods for adjusting criteria for EDWs, with the exception of the inclusion of water effect ratios (WERs) as an optional component of determining appropriate metals criteria, should be applied in the context of State or Regional Board water quality standards-setting actions. EPA's action in promulgating statewide criteria is to reduce risks to all exposed populations, including especially sensitive subpopulations. However, site-specific criteria may be developed subsequently by the State where warranted to provide necessary additional protection, or otherwise to adjust the level of protection as appropriate to reflect site-specific conditions following a Section 304 standards-setting process including the opportunity for public involvement. As described above, EPA has included WERs in the proposed metals criteria listed in the table in Section 131.38(b)(2) for protection of aquatic life.

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Comment ID: CTR-035-006

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24d SSC Effluent Dependent Wtr

References:

Attachments? N

CROSS REFERENCES

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Comment: EPA should adopt separate, scientifically defensible aquatic life criteria for streams and creeks that are dominated all or part of the year by discharges from anthropogenic sources, such as POTWs (i.e. effluent-dependent waters).

Response to: CTR-035-006

See response to CTR-034-007.

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Comment ID: CTR-036-009

Comment Author: County of Orange

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24d SSC Effluent Dependent Wtr

References: Letter CTR-036 incorporates by reference letters CTR-013, CTR-018, CTR-031, CTR-034 and CTR-040

Attachments? N

CROSS REFERENCES

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Comment: We are concerned that the proposed rule would be equally applicable to effluent-dominated water bodies, particularly in the arid West. In these water bodies habitat is often fully or seasonally dependent on existing discharges and removal, due to redirection and treatment, could result in habitat loss.

Response to: CTR-036-009

For purposes of this rulemaking, EPA is presuming that the State has adequately determined the designated uses for its waters. EPA is merely adding criteria for priority toxic pollutants on a statewide basis sufficient to protect the State's designated uses. EPA believes that a use attainability analysis would provide appropriate means for resolving potential tradeoffs between maintaining discharges to support habitat and meeting stringent effluent standards in a particular waterbody. The results of such an analysis may determine whether site-specific modifications to criteria appropriate. EPA believes that the best forum for conducting these special studies and site-specific analyses is in the context of the statewide revisions of water quality standards and policies for their implementation, undertaken triennially by the State, or in the revision of regional Basin Plans. To assist with these analyses, EPA Region 9 has issued "Guidance for Modifying Water Quality Standards and Protecting Effluent-Dependent Ecosystems," (Interim Final, June 1992). This guidance introduces the "Ecological Benefit Comparison" approach with particular attention to application to EDWs. If it can be demonstrated that using an effluent to maintain riparian and aquatic habitats constitutes a net ecological benefit over removal of the effluent, the guidance describes the circumstances under which a designated but not existing use can be modified or removed. Such an approach may be applied both to aquatic life and to human consumption uses. As was recommended by the Report of the EDWs Task Force, convened by the State in 1995, Statewide plan and regional Basin Plan modifications are the preferred regulatory pathways for conducting and adopting such analyses.

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Comment ID: CTR-040-016a

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24d SSC Effluent Dependent Wtr

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES C-21

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#### Comment: RECOMMENDED MODIFICATIONS

To address our concerns, we recommend the following modifications which do not undermine the toxic pollutant control actions envisioned in EPA's economic analysis (e.g., BMPs for stormwater and source control). In fact, some of these recommendations would provide incentives for greater movement toward achieving the water quality criteria than would occur under the Rule as it is currently proposed.

III. Recommendation: Adopt separate, scientifically defensible, reasonably achievable aquatic life criteria for effluent-dominated/effluent-dependent streams.

\* Available discharge data for effluent-dominated streams in Sacramento indicate that a number of the proposed criteria are not presently being achieved and cannot be achieved with implementation of BMPs or other reasonable controls (See Attachment A). This is also true for many municipal stormwater programs in California.

\* The application of the proposed statewide criteria to effluent-dominated waters would force the Sacramento Stormwater Management Program, and other stormwater programs, to remove these discharges, essentially drying up the waters for most of the year. The costs would be significant and the benefits assessed in EPA's economic analysis (enhanced fishing, passive benefits, and reduced cancer risk) would be zero. The removal of these discharges would likely be detrimental rather than beneficial. The effluent-dependent aquatic and riparian habitat, which previously supported aquatic life and wildlife, would no longer exist.

\* Effluent-dominated and effluent-dependent water bodies, which are common in California, require separate and distinct water quality criteria. Such a move is common sense and would be in accordance with the spirit (if not the letter) of Presidential Executive Order 12866 and the Unfunded Mandates Reform Act.

\* Additionally, the CWA requires that water quality standards be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and also taking into consideration their use and value for navigation (See CWA section 303(c)(2)(A)). Consistent with this statutory mandate, EPA regulations require that water quality standards be based on identification of specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use, or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use. Clearly the intent of both the CWA and EPA regulations is that water quality standards be tailored to the characteristics of the waters in question, rather than based on the "one-size-fits-all" approach used in the proposed Rule. This is not the cumbersome task suggested by the Preamble, at least with respect to developing criteria appropriate for effluent-dependent waters. But, even if it were a cumbersome task, the difficulty of complying with the law is not an excuse for noncompliance.

\* EPA could fulfill its obligation under the CWA and EPA regulations with respect to

effluent-dominated waters simply by proposing criteria for these waters that are generally achievable by present stormwater discharges. Then, using the more stringent statewide criteria as a tracer, control measures and BMPs could be implemented to reduce the discharge of problematic pollutants to the MEP.

Response to: CTR-040-016a

Regarding the first and third recommendations under part III, see the response to CTR-034-007.

Regarding the second recommendation under part III; with respect to the comment about removal of discharges see the response to comment number CTR-036-009 above. Further, with respect to comments that compliance with water quality criteria would incur costs that exceed benefits, EPA believes Sacramento County's has overestimated its incremental expense resulting from implementation of the CTR (for further detail see the response to comment in Section J, "Stormwater Economics," Issue 1). In any case, the Clean Water Act requires the states, or EPA to establish criteria that are protective of the designated uses, regardless of costs. This means that EPA must develop scientifically-based criteria that are protective of designated uses. In existing state water quality standards, however, the designated uses are not refined as suggested in Region 9's Guidance for Modifying and Protecting Effluent Dependent Ecosystems to suggest a use that would have different criteria. Until that is done, EPA is establishing criteria that protect the current designated use.

Regarding the fourth recommendation under part III, see the response to comment number CTR-034-007.

Regarding the fifth recommendation under part III, the Clean Water Act requires EPA to establish criteria that will be protective of designated uses. Establishing criteria for waters based on controls dischargers can currently achieve in their discharges may not ensure that criteria are protective of designated uses.

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Comment ID: CTR-042-005  
Comment Author: Cal. Dept. of Transportation  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-24d SSC Effluent Dependent Wtr  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: 5. The CTR should address effluent dominated waterbodies.

The CTR, as currently proposed, does not recognize that many of the waterbodies in the state are classified as "effluent dominated." In many areas of the state, particularly in Southern California, storm water and wastewater discharges are the primary or only source of water to urban creeks and waterways. To meet CTR criteria on discharges to these waterbodies, zero discharge or advanced treatment technologies may be required. The cost to accomplish this would be substantial and the benefit would be marginal, if not negative. A negative benefit would be realized if the removal of storm water and wastewater discharges to these waterbodies causes damage to the aquatic organisms and wildlife that are supported by and rely upon these effluent dependent waterbodies.

Request: Caltrans requests that the CTR be amended to include separate and distinct water quality criteria for effluent dominated or storm water runoff dependent waterbodies.

Response to: CTR-042-005

Concerning the first paragraph of comment 5, see the response to comment number CTR-036-009 and 040-16a above.

Concerning the second paragraph of comment 5, see the response to comment number CTR-034-007 above.

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Comment ID: CTR-043-007

Comment Author: City of Vacaville

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-24d SSC Effluent Dependent Wtr

References:

Attachments? Y

CROSS REFERENCES

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Comment: 7. EPA should adopt separate, scientifically defensible, reasonably achievable aquatic life criteria for streams and creeks that are dominated all or part of the year by discharges from anthropogenic sources. The application of the proposed statewide criteria to waters dominated by discharges from anthropogenic sources would force point source dischargers to remove their discharges, in many cases drying up the waters for most of the year. The costs would be significant and the benefits, at least the benefits assessed in EPA's economic analysis (enhanced fishing, reduced cancer risk, and passive benefits), would be negligible. In fact, the removal of these discharges could be detrimental rather than beneficial. The aquatic and riparian habitat, which previously supported aquatic life and wildlife, would no longer exist. This common type of water body (i.e., effluent dependent waters) demands separate and distinct water quality criteria by any reasonable yardstick, including common sense and the spirit (if not the letter) of Presidential Executive Order 12866 and the Unfunded Mandates Reform Act. Additionally, as previously stated, EPA regulations require that water quality standards be based on identification of specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants Applicable to the water body sufficient to protect the designated use." Clearly the intent of these regulations is that water quality standards be tailored to the characteristics of the waters in question, rather than the "one-size-fits-all" approach in the proposed rule. This is not the cumbersome task suggested by the Preamble at least with respect to developing criteria appropriate for effluent dependent waters. But, even if it were a cumbersome task, the difficulty of complying with the law is not an excuse for noncompliance. EPA could fulfill its obligation under the Act and EPA regulations with respect to effluent dependent waters simply by proposing criteria for these waters that are presently achievable by municipal wastewater and stormwater discharges and then using the more stringent statewide criteria as a trigger for development and implementation of controls that will reduce the discharge of problematic pollutants to the maximum extent practical.

Response to: CTR-043-007

See responses to CTR-034-007, CTR-036-009, and CTR-040-016a. See also the responses to comment in the Legal Concerns Category (C-21) including CTR-005-006a, CTR-036-009, CTR-038-006a, and the record for this rule for a discussion about why this rule applies to all waters that do not have water quality criteria for toxic pollutants.

With respect to EPA's compliance with Executive Order (E.O.) 12866, the Regulatory Flexibility Act (RFA), and the Unfunded Mandates Reform Act (UMRA), see the preamble to the final rule.

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Comment ID: CTR-044-008

Comment Author: City of Woodland

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-24d SSC Effluent Dependent Wtr

References:

Attachments? Y

CROSS REFERENCES

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Comment: We have reviewed the proposed CTR and offer the following comments:

7. EPA should adopt separate, scientifically defensible, reasonably achievable aquatic life criteria for streams and creeks that are dominated all or part of the year by discharges from anthropogenic sources. The application of the proposed statewide criteria to waters dominated by discharges from anthropogenic sources--would force point source dischargers to remove their discharges, in many cases drying up the waters for most of the year. The costs would be significant and the benefits, at least the benefits assessed in EPA's economic analysis (enhanced fishing) reduced cancer risk, and passive benefits), would be negligible. In fact, the removal of these discharges could be detrimental rather than beneficial. The aquatic and riparian habitat, which previously supported aquatic life and wildlife, would no longer exist. This common type of water body (i.e., effluent dependent waters) demands separate and distinct water quality criteria by any reasonable yardstick, including common sense and the spirit (if not the letter) of Presidential Executive Order 12866 and the Unfunded Mandates Reform Act. Additionally, as previously stated, EPA regulations require that water quality standards be based on identification of specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use." Clearly the intent of these regulations is that water quality standards be tailored to the characteristics of the waters in question, rather than the "one-size-fits-all" approach in the proposed rule. This is not the cumbersome task suggested by the Preamble at least with respect to developing criteria appropriate for effluent dependent waters. But, even if it were a cumbersome task, the difficulty of complying with the law is not an excuse for noncompliance. EPA could fulfill its obligation under the Act and EPA regulations with respect to effluent dependent waters simply by proposing criteria for these waters that are presently achievable by municipal wastewater and stormwater discharges and then using the more stringent statewide criteria as a trigger for development and implementation of controls that will reduce the discharge of problematic pollutants to the maximum extent practical.

Response to: CTR-044-008

See responses to CTR-034-007, CTR-036-009, CTR-040-016a, and CTR-043-007.

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Comment ID: CTR-049-004  
Comment Author: Watereuse Assoc. of California  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-24d SSC Effluent Dependent Wtr  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: With respect to other criteria proposed for adoption in the draft CTR, we recommend that USEPA:

2. Adopt separate, scientifically defensible, and achievable aquatic life criteria for streams and creeks that are dominated all or part of the year by discharges from recycled water;

Response to: CTR-049-004

See response to CTR-034-007.

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Comment ID: CTR-056-011  
Comment Author: East Bay Municipal Util. Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: C-24d SSC Effluent Dependent Wtr  
References: Letter CTR-056 incorporates by reference letter CTR-054  
Attachments? N

**CROSS REFERENCES**

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Comment: Third, regarding the criteria being proposed for adoption in the draft CTR, EBMUD recommends that EPA should:

- \* Evaluate and adopt separate, scientifically defensible, reasonably achievable aquatic life criteria for streams and creeks that are dominated all or part of the year by dischargers from anthropogenic sources such as POTWs (i.e. effluent-dependant waters).

Response to: CTR-056-011

See response to CTR-034-007.

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Comment ID: CTR-057-003  
Comment Author: City of Los Angeles  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-24d SSC Effluent Dependent Wtr  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: Effluent-Dependent Water Bodies

On Page 42164, the proposed Rule states that the EPA disapproved the deferral of water quality objectives in the ISWP for effluent dominated streams (Category "a") and agricultural drainage on the basis of imprecise and overly broad definitions. Since the ISWP was invalidated, the issue of effluent-dependent water bodies (EDW) was analyzed in detail via the State's Public Advisory Task Force process. Through our participation on the EDW Task Force (which included representatives from the EPA), we can confidently state that the issue has since been much better defined and that there is a full consensus that these water bodies need to be recognized in the establishment of water quality criteria.

In developing its list of non-compliant water bodies under the 303(d) provision, the State in essence acknowledged that EDWs are problematic simply because they support beneficial uses that would not otherwise exist without the flows of point and non-point discharges. This situation is compounded by the fact that all waters of the State, regardless of provenance, are classified as potential sources of domestic water supply; again, this is a potential benefit that would not otherwise be possible without effluent discharges, and this benefit should be recognized in the proposed Rule.

From this, we conclude that the proposed Rule is not complete because it does not recognize the importance of EDWs as was conclusively demonstrated by the EDW Task Force. . The EDW concept should not be abandoned, and we strongly urge the EPA to replace its statements on Page 42164 with a brief acknowledgment of the findings and recommendations of the EDW Task Force. We believe that this will provide additional impetus for the State to incorporate EPA-approved EDW provisions in its own plan.

Response to: CTR-057-003

EPA participated in the EDW Task Force with other stakeholders representing the industrial, municipal, storm water, agricultural, environmental, water supply, public health and regulatory sectors. The goal of the Task Force was to develop recommendations for the State Water Resources Control Board (SWRCB) regarding how to provide reasonable protection for appropriate beneficial uses of EDWs. After considering the complexities of the analyses necessary to characterize and determine appropriate water quality objectives for EDWs, the Task Force recommended the following two-step approach to regulating them. The first step is to modify the present designated beneficial uses such that they more accurately reflect actual uses. The second step is to adopt water quality objectives appropriate for each use designation. The needs for developing this approach would be: to define EDWs in the new State plans, to define EDW-specific use categories, to define and categorize all EDWs by use categories in the State, and to adopt appropriate water quality objectives for EDWs. While emphasizing again that this work should be done within the context of either SWRCB or Regional Board standards-setting actions, EPA

acknowledges and agrees with the recommended approach. EPA further notes that the Task Force report also recommends that the SWRCB should develop technical evaluation criteria for a number of the steps identified above, and that the SWRCB should consider convening a technical advisory committee to address these issues. Until the recommended technical evaluation criteria are established and implemented, EPA considers that criteria should be adopted on a statewide basis.

See also response to comment number CTR-034-007 above.

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Comment ID: CTR-059-010

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-24d SSC Effluent Dependent Wtr

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES

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Comment: Due to the time constraints of the comment period, we have focused our review and comments primarily on those criteria that we anticipate may cause compliance issues for one or more of the Sanitation Districts' WRPs (see below). Based on our initial review of the proposed rule, the Sanitation Districts recommend that adoption of some of the criteria be deferred. As explained in the attached comments, we believe that there are significant scientific issues regarding the human health criteria for several trihalomethanes that call into question the accuracy and appropriateness of the proposed criteria. In addition, we reconunend that EPA defer adoption of those criteria that are below detection limits and that have not been demonstrated to be adversely affecting water quality or the attainment of designated uses on a water body-specific basis in California. In addition, we recommend that EPA not adopt criteria for effluent dependent waters, unless they have been adjusted to reflect the characteristics of this type of water body.

#### Criteria for Effluent Dependent Waters

As discussed above, the water quality standards regulations (specifically, 40 CFR section 131.11) requires EPA to examine the specific water bodies and uses to be protected before adopting criteria in water quality standards. As EPA is aware, streams and washes in and areas have unique characteristics, and in many locations in southern California, POTW discharges have transformed ephemeral streams into what are essentially perennial streams. These are often referred to as "effluent dependent waters" or EDWs. The impact of this has been to create new riparian habitats that provide valuable ecological benefits. However, this has also raised many questions regarding what water quality standards should be applied to EDWs. For instance, since the use of treated wastewater for drinking water is restricted by the Department of Health Services, it is questionable whether the municipal drinking water designated use (MUN) is appropriate for EDWS. LACSD believes that, based on the requirements of the water quality standards regulations, that EPA has not demonstrated that the proposed CTR criteria are appropriate for EDWs, and that a more appropriate course of action would be for EPA to adopt separate criteria for water bodies in California that are dependent for all or part of the year on flows from wastewater treatment plants.

Appropriate ways to modify aquatic life and human health criteria for EDWs could include adjustment of the uncertainty and/or modifying factors used to calculate reference doses (RfDs) for noncarcinogenic human health criteria, use of 10E-4 or 10E-5 risk levels (instead of 10E-6) for carcinogenic human health criteria, adjustment of bioconcentration factors for human health criteria, the use of site-specific water effects ratios for aquatic life criteria, and the adjustment of the low flow values, frequency of exceedence and/or criteria averaging periods used in deriving or applying the criteria. As an agency that owns and operates numerous treatment plants that discharge into EDWs, and that has a substantial base of knowledge regarding the quality of the effluent and the conditions in the ambient environment in the vicinity of these discharges, we would be pleased to work with EPA to craft water quality criteria for toxic pollutants that are appropriate for EDWs in southern California.

Response to: CTR-059-010

In response to the recommendation that EPA not adopt criteria for effluent dependent waters unless they have been adjusted to reflect the characteristics of this type of water body, see the response to comment number CTR-034-007.

Concerning the comment that water quality standards regulations require EPA to examine specific water bodies and their uses before adopting criteria for them, see response to comment number CTR-040-016a. Concerning what designated uses are appropriate for EDWs, see response to CTR-036-009. See also responses to comment CTR-005-006a, CTR-036-005, and CTR-038-006a in the Legal Concerns Category (C-21). For purposes of this rulemaking, EPA is presuming that the State has adequately determined the designated uses for its waters. EPA is promulgating criteria for priority toxic pollutants on a statewide basis sufficient to protect the State's designated uses.

Concerning appropriate ways to modify aquatic life and human health criteria for EDWs, with the exception of application of water effect ratios (WERs), EPA considers that the methods suggested should be applied in the context of State or Regional Board water quality standards-setting actions. EPA's action in promulgating statewide criteria is to reduce risks to all exposed populations, including especially sensitive subpopulations. However, site-specific criteria may be developed subsequently by the State where warranted to provide necessary additional protection, or otherwise to adjust the level of protection as appropriate to reflect site-specific conditions following a Section 304 standards-setting process including the opportunity for public involvement. As described above, EPA has included WERs in the proposed metals criteria listed in the table in Section 131.38(b)(2) for protection of aquatic life.

With respect to adjusting frequency of exceedence and/or criteria averaging periods, EPA refers the commenter to Appendix D of EPA's "Technical Support Document For Water Quality-Based Toxics Control" (EPA/505/2-90-001, March 1991), in particular to the discussion entitled "Considerations for Proposing Site-Specific Increases or Decreases in the Averaging Frequency of Allowed Excursions." Although more frequent than once-in-three-years excursions might be acceptable in certain situations, where, for example, areas of refuge for aquatic organisms are available or for certain lower-order streams, the converse may also be true depending on the size of the drainage and the persistence of the pollutant in question. As stated previously, EPA considers it inappropriate for EPA to develop site-specific criteria for California EDWs. The averaging periods of EPA proposed criteria for toxics are based on data from nation-wide laboratory toxicity tests. The once-in-three-years frequency of exceedence is based on field data. With the concurrence of EPA, States may adopt site-specific criteria, including potentially different averaging periods and frequencies of allowed excursions, for individual or appropriate categories of water bodies. The kinds of data necessary to justify adoption of such criteria may be determined by reviewing the studies referenced in Appendix D of the Technical Support Document and following procedures described in Chapter 3 of EPA's Water Quality Standards Handbook

(EPA-823-94-005a, August 1994)

With regard to the adjustment of low-flow values (although this issue concerns implementation of proposed criteria, and is thus also more appropriate for the State to consider), the once-in-ten-year seven-day average low flow design condition (7Q10) has historical precedent and is part of many States' water quality standards. In addition, this value approximates the same degree of protection as the three-year return interval of the proposed acute and chronic criteria. Given the state of the science, and the limitations of available data, EPA as a matter of policy takes the position that it should assure adequate protection and takes a conservative approach to establishing water quality criteria. This policy is also consistent with and recognizes historic program practices and procedures used by both the Agency and the States in implementing the water quality standards and related implementation programs. (Guidelines for Developing or Revising Water Quality Standards, April 1973, p.7.)

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Comment ID: CTR-081-004a  
Comment Author: West County Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-24d SSC Effluent Dependent Wtr  
References:  
Attachments? N  
CROSS REFERENCES C-24e

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Comment: \* EPA should consider adopting separate, scientifically defensible and reasonably achievable aquatic life criteria for waters that are effluent-dependent for all or part of the year. In addition, the aquatic life criteria should be applied to those waters identified in the Basin Plans instead of "all waters."  
"

Response to: CTR-081-004a

Concerning the issue of adopting separate aquatic life criteria for effluent-dependent waters, see the response to CTR-034-007.

Concerning the issue of application of those criteria to waters identified in the Basin Plans, EPA considers that, with respect to protection of aquatic life, the proposed CTR criteria apply to all waters in the State of California except for those covered by the NTR, as amended or those covered by an EPA approved site-specific criterion or basin plan objective. If the aquatic life use designation is considered inappropriate, it may be removed only where a use attainability analysis is conducted and approved, as described further in response to CTR-036-009.

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Comment ID: CTR-085-014  
Comment Author: Camarillo Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97

Subject Matter Code: C-24d SSC Effluent Dependent Wtr

References:

Attachments? N

CROSS REFERENCES

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Comment: The District supports the following positions of CASA and SCAP where changes need to be made in the proposed California Toxics Rule:

\* The EPA should adopt separate, scientifically defensible, reasonably achievable aquatic life criteria for streams and creeks that are dominated all or part of the year by discharges from anthropogenic sources, such as POTW's (i.e., effluent dependent waters).

Response to: CTR-085-014

See response to CTR-034-007.

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Comment ID: CTR-089-006

Comment Author: Las Virgenes Mncpl Water Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-24d SSC Effluent Dependent Wtr

References:

Attachments? N

CROSS REFERENCES

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Comment: While the draft regulations demonstrate clear progress on these and other issues, there remain some unresolved problems that could compromise our ability to serve our customers. We offer these comments in the hope of minimizing those potential impacts.

Incorporation of the Inland Surface Water Plan Task Force Recommendations

A final issue is whether the draft CTR gave adequate consideration of the recommendations of the state's Inland Surface Water Plan (ISWP) Task Force. The ISWP Task Force was created specifically to address the court-mandated need for multiple-stakeholder input in the state's implementation of the Clean Water Act. The ISWP Task Force included at least two groups (Toxics task force and Effluent Dependent Waterbody task force) specifically charged with making recommendations for the adoption of toxics criteria in the state's inland waters.

The absence of any criteria for toxics in effluent,-dependent waterbodies causes us to wonder how the draft CTR incorporated the recommendations of the ISWP task force. The issue here is that criteria that are too strict may cause dischargers to seek alternative disposal options, which could result in stream wildlife impacts greater than those resulting from substandard water. This issue is paramount in the state's arid regions, where the availability of water of any quality can dictate whether aquatic life exists at all. The rebuttal position that dischargers should be forced to treat the water anyway ignores the fact that, if treated to these standards, the water becomes valuable for other uses such as recycling, which dischargers are legally-entitled to pursue. Indeed, state water policy is to encourage water recycling

efforts specifically to offset the need to import water from the state's less arid regions and the Colorado River Basin.

Response to: CTR-089-006

See the response to CTR-034-007. Concerning incorporation of the Inland Surface Water Plan Task Force Recommendations, see also response to CTR-057-003.

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Comment ID: CTR-096-006  
Comment Author: City of Modesto  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-24d SSC Effluent Dependent Wtr  
References:

Attachments? N

**CROSS REFERENCES**

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Comment: Thank you for the opportunity to comment on the proposed California Toxics Rule. The City's comments are related to five main concepts:

Specifically, the City submits the following comments:

C. EPA should adopt separate scientifically based aquatic life criteria for rivers that maybe dominated all or part of the year by discharges from anthropogenic sources, such at POTWs (i.e. effluent-dependent waters).

Response to: CTR-096-006

See response to CTR-034-007.

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Comment ID: CTRH-002-012  
Comment Author: Lisa Ohlund  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Alliance of So. CA POTWs  
Document Date: 09/18/97  
Subject Matter Code: C-24d SSC Effluent Dependent Wtr  
References:

Attachments? N

**CROSS REFERENCES**

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Comment: However, there are several areas in which we would like to request the EPA make changes. For example, we'd like to see EPA adopting separate aquatic life criteria for streams and creeks in arid areas that are dependent for most or all of their flows on discharges from wastewater treatment facilities.

Response to: CTRH-002-012

See response to CTR-034-007.

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Comment ID: CTRH-002-020

Comment Author: Ing-Yig Cheng

Document Type: Public Hearing

State of Origin: CA

Represented Org: L.A. Bureau of Sanitation

Document Date: 09/18/97

Subject Matter Code: C-24d SSC Effluent Dependent Wtr

References:

Attachments? N

CROSS REFERENCES

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Comment: The final issue that I would like to present concerns the need for recognition in the CTR for effluent dependent waters. Many POTWs in Southern California discharge to waterways that would otherwise be nonexistent during the dry seasons. This has allowed for the establishment of aquatic habitats and other beneficial uses in those waterways. Since it is not an isolated concern, this issue needs to be recognized. If CTR rule-making is limiting itself to establishing a conservative water quality criteria that assures protection of all waters regardless of its condition, then a mechanism needs to be provided in CTR to deal with the EDS issues. EPA cannot simply deny us the designation of Categories A, B and C in the old Inland Surface Water Plan; instead, this issue must be addressed.

Response to: CTRH-002-020

Concerning the first part of this comment see the response to CTR-036-009 above.

Concerning the comment that a mechanism needs to be provided in CTR to deal with the EDW issues, EPA considers that by incorporating variables of hardness, water effect ratios and pH as appropriate into the proposed CTR criteria as described further in response to CTR-034-007 above, it has provided such a mechanism. Beyond such adjustments, criteria would have to be further revised by means of a use attainability or other site-specific analysis, which should be conducted at the State or local level as described in response to the fourth recommendation in CTR-040-016a, above.

Concerning the comment that EPA cannot simply deny California the designation of Categories (a), (b) and (c) in the old Inland Surface Waters Plan: EPA's action in only partially approving California's Inland Surface Waters and Enclosed Bays and Estuaries Plans was to conclude that deferral of adoption of toxics criteria for categories (a) and (b) and the exemption from coverage of category (c) were inconsistent with CWA section 303(c)(2)(B). EPA would be willing, pursuant to its Guidance for Modifying and Protecting Effluent Dependent Ecosystems, to consider application of alternate uses that would lead to less stringent criteria. Thus, EPA did not "deny ... the designation" of EDWs, as is alleged in this comment, as much as disapprove the deferral and exemption of these waters from having any criteria for toxics.

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Subject Matter Code: C-24e SSC Desgntd/Beneficial Uses

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Comment ID: CTR-013-006b

Comment Author: County of Los Angeles

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24e SSC Desgntd/Beneficial Uses

References: Letter CTR-013 incorporates by reference letter CTR-027

Attachments? N

CROSS REFERENCES I-04

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Comment: In addition, we would like to emphasize the following concerns which greatly impact the Los Angeles County Stormwater Program:

6. The proposed criteria will apply to all inland surface waters and enclosed bays and estuaries, regardless of the designated or attainable uses for a water body. This is of particular concern for waters that only have flows during wet weather events or that are point source effluent dominated water bodies. Blanket application of water quality criteria to all waters without designated uses is inconsistent with Federal and State water quality laws. Water quality standards are made up of two components--designated uses and the appropriate criterion to ensure the designated use can be achieved. Assigning criteria to a water body without first considering the designated uses is inappropriate and could result in over restrictive, unnecessary permit limits potentially resulting in significant compliance costs to a discharger.

It is common in California for urban stormwater runoff discharges to be the primary or only source of waters to urban creeks and waterways, that is, there would be little or no flow during most of the year were it not for urban stormwater or other point source discharges. Given the potential compliance problems for stormwater discharges for certain constituents (even after a fully implemented BMP program), a municipality could be forced to remove stormwater discharges from the creek. The costs would be significant and the benefit little, if any. In fact, the removal of these discharges would be environmentally damaging to aquatic life and wildlife that were supported by the effluent/runoff dependent waters.

Therefore, the proposed rule should be revised to avoid blanket application of the proposed criteria to all surface waters and to require appropriate beneficial and attainable uses of all waters be determined prior to imposing water quality criteria in the water body. The rule should also be revised to implement separate and distinct water quality criteria for water bodies that are primarily effluent or runoff-dependent.

Response to: CTR-013-006b

As discussed in the preamble, the purpose of today's rule is to establish numeric criteria for those navigable waters in California that do not have criteria for priority toxic pollutants in place. The State has in place specific use designations that were duly adopted by the State through its Regional Water Quality Control Board's Basin Plans which include aquatic life, human health and other uses to be protected in particular waterbodies. Thus, EPA, in this rulemaking, is not revising those use designations established by the State.

Furthermore, EPA encourages the commenter to work with the State in its review and adoption of the Basin Plans to refine those use designations that the commenter believe might be inappropriate. Such review could encompass a use attainability analysis to determine if the designated uses need to be changed to reflect uses that are no longer attainable, provided that the existing uses (those uses established on or after November 28, 1975) are still protected. A use attainability analysis is an assessment of physical, chemical, biological and economic factors that affect the attainment of a use.

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Comment ID: CTR-020-017

Comment Author: City of Stockton

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-24e SSC Desgntd/Beneficial Uses

References:

Attachments? Y

CROSS REFERENCES

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## Comment: II. Use of New Scientific Information

The City acknowledges and supports EPA's update of several water quality criteria including those for mercury, cadmium and arsenic. While a number of criteria were updated to reflect current scientific information, there are a few notable exceptions.

The following briefly addresses the key updates and omissions that should be addressed in the final publication of this rule.

### 6. Human Health Criteria Application

These stringent criteria, which are based upon the assumption that two liters of water is consumed per day, are specified to apply to all surface waters with a MUN designation. This is a default designation for many waters in the various Basin Plans and means that ditches and other water bodies that clearly have no actual or extremely limited drinking water use potential will be regulated more stringently than tap water for many pollutants. This is an overly broad application of the federal criteria and is unnecessary to ensure appropriate public health protection. EPA should revise the rule to specify that consumption-based criteria will only apply to waters in the vicinity of water intakes which will allow for consideration of fate and transport of pollutants before determining that a potential public health threat exists. Likewise, fish consumption-based criteria should only apply where the Department of Fish & Game determines that there is a reasonable likelihood of the presence of a game fishery. If such a fishery is not present, there will be no human exposure to the pollutants justifying implementation of stringent point or non-point controls.

Response to: CTR-020-017

EPA disagrees that the application of the human health criteria in waters that have a MUN designation is unnecessary to protect public health in California. EPA believes that the application of the human health criteria that considers exposure from both fish and drinking water consumption in waters that have a

MUN designation is appropriate and consistent with State practices and regulatory requirements (Section 131.11 of the Water Quality Standards Regulation requires the adoption of criteria to protect the uses of state waters). The State assigns the MUN designation to waters that are potential or actual drinking water supplies. Since EPA has no intention of changing the uses designated by California in this rulemaking, EPA encourages the commenter to work with the State in its review and adoption of the Basin Plans to refine or modify those use designations that the commenter believe might be inappropriate.

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Comment ID: CTR-026-001b

Comment Author: Cal. Department of Fish & Game

Document Type: State Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24e SSC Desgntd/Beneficial Uses

References:

Attachments? N

CROSS REFERENCES A

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Comment: 1 . DESIGNATED USES AND ANTIDEGRADATION POLICY

The DFG is concerned with the issues of "designated uses" and an "antidegradation policy" as they apply to the formation of water quality standards. It is our understanding that water quality standards are comprised of, or defined by, three components: 1) designated uses, 2) numeric water quality criteria, and 3) an antidegradation policy. The CTR is not clear on which designated uses are being identified and when they were established. The rule needs to identify what designated uses are being assigned and when these uses were or should be attained. At issue is which uses should be maintained and protected, and what the baseline should be for designating the various beneficial or designated uses for inland freshwater and bay and estuarine waters of the state. We believe that any baseline for applying the antidegradation policy should establish what the quality of the water would have been historically in the absence of human impacts. Under the Porter Cologne Act, the State's primary water quality statute, the discharge of waste into state waters is not a right but a privilege. Since the discharge of waste is not considered a beneficial use, it should not be permitted in public waters unless it is determined that all beneficial uses, especially publicly entrusted fish and wildlife resources, are fully protected. This is especially true for wetlands throughout the State. The proposed rule is not clear as to when the baseline starts (i.e., historical vs. statutory). The DFG believes that, to the extent practicable, designated uses should be reflective of what has been realized in the past. If the CTR is utilizing a statutory date for which baseline designated uses were identified, then the CTR needs to include a justification for such a date.

With respect to antidegradation, it is not clear whether or not the proposed rule is subject to these requirements. It is our understanding that when a proposed action would allow less stringent criteria than previously proposed or adopted, and if that action would result in more loading of a particular constituent into waters of the State, then an appropriate antidegradation analysis shall be required. It is not clear what process EPA has undertaken to adequately address antidegradation issues related to the proposed new criteria. It may be that the applicability of the antidegradation policies are more pertinent with respect to site-specific criteria that may be included in the final rule. We recommend that the CTR adequately address this issue and apply the antidegradation policy where necessary.

Response to: CTR-026-001b

See response to CTR-013-006b. For a response to antidegradation issues, see response to CTR-026-001a.

The purpose of this rule is to establish numeric criteria for those waters identified in the State's Basin Plans that were duly adopted by California's Regional Water Quality Control Boards that do not have water quality criteria for priority toxic pollutants in place. These Plans have specific use designations for waterbodies that were duly adopted by the State through its Regional Water Quality Control Boards' basin plans that identify aquatic life and human health uses to be protected in particular waterbodies. EPA, in this rulemaking, is not revising or establishing the use designations for waters contained in the State's Basin Plans. The review of those uses designations established by the State are outside of the scope of today's rule. Furthermore, EPA does not believe that an evaluation of the use designations or a discussion on the dates those uses were assigned is within the scope of this rulemaking action. However, EPA does note that in today's rule and in the proposed rule (see 40 CFR 131.36(d)(1) through (d)(3)), the Agency identifies the water use classifications that are subject to this Federal rule.

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Comment ID: CTR-027-007b

Comment Author: California SWQTF

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24e SSC Desgntd/Beneficial Uses

References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040

Attachments? N

CROSS REFERENCES I-04

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Comment: 7. The proposed criteria will apply to all inland surface waters and enclosed bays and estuaries regardless of the designated or attainable uses for a water body. This is of particular concern for waters that only have flows during wet weather events, or that are point source effluent dominated water bodies. Blanket application of water quality criteria to all waters without designated uses is inconsistent with federal and state water quality laws. Water quality standards are made up of two components - designated uses and the appropriate criteria to ensure the designated use can be achieved. Assigning criteria to a water body without first considering the designated uses is inappropriate and could result in overly restrictive, or unnecessary permit limits, potentially resulting in significant compliance costs to a discharger.

It is common in California for urban stormwater runoff discharges to be the primary or only source of waters to urban creeks and waterways; that is, there would be little or no flow during most of the year were it not for man's activities. Given the potential compliance problems for stormwater discharges for certain constituents (even after a fully implemented BMP program) a municipality could be forced to remove stormwater discharges from the receiving water. The costs would be significant and the benefit little, if any. In fact, the removal of these discharges would be environmentally damaging to aquatic life and wildlife that were supported by the effluent/runoff dependent waters.

Recommendation: The proposed rule should be revised to avoid blanket application of the proposed criteria to all surface waters, and to require appropriate beneficial and attainable uses of all waters be determined prior to imposing water quality criteria in the water body. The rule should also be revised to

implement separate and distinct water quality criteria for water bodies that are primarily effluent or runoff dependent waters. An example of such flexibility is the use of a less stringent cancer risk factor such as 10E-4 or 10E-5 for the human health criteria for effluent dominated streams.

Response to: CTR-027-007b

See response to CTR-027-007a.

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Comment ID: CTR-035-007

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24e SSC Desgntd/Beneficial Uses

References:

Attachments? N

**CROSS REFERENCES**

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Comment: EPA should apply the aquatic life criteria only to those waters identified in Regional Water Quality Control Plans ("Basin Plans") as having full aquatic life use designations, rather than to "all waters," in the same way that the human health criteria for water and organisms are applied only to those waters designated in Basin Plans with the municipal drinking water supply, beneficial use ("MUN" use).

Response to: CTR-035-007

See response to CTR-081-004b.

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Comment ID: CTR-035-038

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24e SSC Desgntd/Beneficial Uses

References:

Attachments? N

**CROSS REFERENCES**

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Comment: p. 42207 -- Beneficial Use Designations (Applicability of Criteria) We are concerned about what appear to be overly broad statements in the proposed regulation regarding the applicability of the criteria. We recommend that EPA remove the following statement contained in section 131.38(d)(1) of the regulation: "Although the State has adopted several use designations for each of these waters, for purposes of this action, the specific standards to be applied in paragraph (d)(2) of this section are based on the presence in all waters of some aquatic life designation and the presence or absence of the MUN use designation (municipal and domestic supply)" (62 Fed. Reg. 42207) (emphasis added). We also

request that EPA delete from the regulation the statement that begins this paragraph, which states that "Except as specified in paragraph (d)(3) of this section, all waters assigned any aquatic or human health use classifications in the Water Quality Control Plans for the various Basins of the State... are subject to the criteria in paragraph (d)(2) of this section, without exception." We recommend that EPA modify the applicability of the rule to reflect its full evaluation of those specific water bodies where each pollutant is found to be "adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern" (40 CFR section 131.11) (see comments on p. 1-2).

Further, we believe that, contrary to EPA's assertion on p. 42168 of the Preamble that the aquatic life criteria are applicable to all waters of the U.S., the freshwater aquatic life criteria may be inappropriate for application to streams and creeks that are dependent on flows for all or part of the year on discharges from anthropogenic sources, such as POTWs. We request that EPA establish separate, scientifically defensible aquatic life criteria for such water bodies. Several of our comments above have suggested ways that may be appropriate to modify certain types of criteria. Until this issue is addressed, we oppose the application of the criteria contained in the proposed CTR to effluent-dependent waters in the State of California.

Response to: CTR-035-038

See response to CTR-036-005.

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Comment ID: CTR-040-018d

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24e SSC Desgntd/Beneficial Uses

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES C-26;G-03; C-30

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Comment: V. Recommendation: Delete all provisions in the Rule that preempt the States flexibility in permitting. The Rule provides specific direction on the adoption of averaging periods, low flow values, effluent limitations for criteria not being adopted as a part of the Rule, and that the aquatic life criteria be applied to all waters irrespective of designated use, etc..

\* The Preamble and the Rule's economic analysis make a point that the State has considerable flexibility in establishing permit limitations. In making, that point, EPA implies that the State may implement the criteria in a manner that would have little or no adverse economic impact on dischargers.

\* However, the Rule contains a number of implementation provisions that are not required under Section 303(c)(2)(B), but serve to preempt the State's flexibility. These provisions include, but are not necessarily limited to the adoption of averaging periods and low flow values, directives regarding the establishment of effluent limitations for criteria that are not being adopted as a part of the Rule, and application of the aquatic life criteria to all waters irrespective of the designated use.

\* Not only does EPA not have a duty to adopt these provisions, but also the provisions are more restrictive than those required by the CWA or EPA regulations, They clearly restrict the State's flexibility. In fact, other states have adopted, and EPA has approved, implementation provisions (e.g., averaging periods and low flow values) which are less restrictive.

\* For these reasons, EPA should remove all such implementation provisions from the Rule.

Response to: CTR-040-018d

See response to CTR-081-004b.

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Comment ID: CTR-049-005  
Comment Author: Watereuse Assoc. of California  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-24e SSC Desgntd/Beneficial Uses  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: With respect to other criteria proposed for adoption in the draft CTR, we recommend that USEPA:

3. Apply the aquatic life criteria to those waters identified in Regional Water Quality Control Plans ("Basin Plans") as having aquatic life uses, rather than to "all waters;" and

Response to: CTR-049-005

See response to CTR-081-004b.

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Comment ID: CTR-056-013  
Comment Author: East Bay Municipal Util. Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: C-24e SSC Desgntd/Beneficial Uses  
References: Letter CTR-056 incorporates by reference letter CTR-054  
Attachments? N  
CROSS REFERENCES

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Comment: Third, regarding the criteria being proposed for adoption in the draft CTR, EBMUD recommends that EPA should:

\* Apply aquatic life criteria to those waters identified in the Regional Water Quality Control Plans (i.e., Basin Plans) as having aquatic life uses, in lieu of adopting criteria for "all waters" of the State.

Response to: CTR-056-013

See response to CTR-081-004b.

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Comment ID: CTR-066-012  
Comment Author: Delta Diablo Sanitation Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-24e SSC Desgntd/Beneficial Uses  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: The areas with which we find concerns and the requested changes include the following:

\* EPA should apply the aquatic life criteria to those waters identified in Regional Water Quality Control Plans ("Basin Plans") as having aquatic life uses, rather than to "all waters."

Response to: CTR-066-012

See response to CTR-081-004b.

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Comment ID: CTR-081-004b  
Comment Author: West County Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-24e SSC Desgntd/Beneficial Uses  
References:  
Attachments? N  
CROSS REFERENCES C-24d

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Comment: \* EPA should consider adopting separate, scientifically defensible and reasonably achievable aquatic life criteria for waters that are effluent-dependent for all or part of the year. In addition, the aquatic life criteria should be applied to those waters identified in the Basin Plans instead of "all waters."

Response to: CTR-081-004b

Today's rule applies to those navigable waters in California that do not have numeric criteria for priority toxic pollutants in place. This encompasses waters of the U.S. for which the State has duly adopted use

designations through its Regional Water Quality Control Plans, including those waters that are effluent and flow dependent streams. The criteria in this rule are based generally on EPA's national criteria guidance which are applicable and appropriate for all waters of the U.S. However, if a state finds that the ambient water quality criteria for a waterbody are inappropriate, then EPA's Water Quality Standards Regulation provide for a use attainability analysis and establishment of appropriate use designations.

For waters of the U.S. which have human health uses designated in the Regional Board's Basin Plans, aquatic life is present and fish or other aquatic organisms are being caught and consumed. Therefore aquatic life criteria and human health criteria based on the consumption of fish are applied to those waters except where the State has conducted and EPA has approved a use attainability analysis to remove or modify the aquatic life use or fish consumption use. Furthermore, for waters with a MUN designation, human health criteria that considers exposure from water and fish are applied to those waters. These approaches are consistent with EPA's Water Quality Standards Regulation (40 CFR Part 131) which requires States to include uses identified in Section 101(a) of the Clean Water Act, where attainable, and to establish criteria to protect those use designations.

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Comment ID: CTR-082-006

Comment Author: City of Burbank

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-24e SSC Desgntd/Beneficial Uses

References:

Attachments? N

**CROSS REFERENCES**

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Comment: The subject rule has a significant impact on our facility discharge and the citizens of the City. We therefore present the following comments for your consideration to re-open the comment period for this rule in order to facilitate a more complete review by public and in particular by those in the POTW community:

\* USEPA should consider application of the aquatic criteria to be limited to those waters identified in the Regional Water Quality Control plans (Basin Plans) as having aquatic life uses rather than to "all waters."

Response to: CTR-082-006

See response to CTR-081-004b.

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Comment ID: CTR-085-015

Comment Author: Camarillo Sanitary District

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-24e SSC Desgntd/Beneficial Uses

References:

Attachments? N

**CROSS REFERENCES**

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Comment: The District supports the following positions of CASA and SCAP where changes need to be made in the proposed California Toxics Rule:

\* The EPA should apply the aquatic life criteria to those waters identified in Regional Water Control Plans ("Basin Plans") as having aquatic life use, rather than to "all waters."

Response to: CTR-085-015

See response to CTR-081-004b.

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Comment ID: CTR-096-007

Comment Author: City of Modesto

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-24e SSC Desgntd/Beneficial Uses

References:

Attachments? N

**CROSS REFERENCES**

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Comment: Thank you for the opportunity to comment on the proposed California Toxics Rule. The City's comments are related to five main concepts:

Specifically, the City submits the following comments:

D. EPA should apply the aquatic life criteria to those waters identified in Regional Water Quality Control Plans ("Basin Plans") as having aquatic life uses, rather than to "all waters".

Response to: CTR-096-007

See response to CTR-081-004b.

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Subject Matter Code: C-25 Hardness

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Comment ID: CTR-026-005

Comment Author: Cal. Department of Fish & Game

Document Type: State Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-25 Hardness

References:

Attachments? N

**CROSS REFERENCES**

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Comment: 6. TOTAL HARDNESS DEPENDENT FRESHWATER METALS CRITERIA

The DFG does not object to the development of freshwater metals criteria that take into account the effect of total hardness on metals toxicity, with the exception of the comments on criteria development stated above. The DFG does recommend, though, that the proposed rule clarify the tables (page 42169) that reflect this approach. The tables may be viewed as the specific criteria rather than examples of metals criteria based on the total hardness value of 100 mg/l CaCO<sub>3</sub>.

Response to: CTR-026-005

EPA acknowledges the commenter's concern that the hardness-dependent metals criteria may be incorrectly misconstrued as single fixed values, particularly since fixed numbers and hardness-dependent numbers appear in the same table. However, footnote "e" of the table explains the hardness dependency. EPA does not know of a better manner in which to present this information, and the commenter did not offer an alternative as to how to make the information clearer to the a casual reader.

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Subject Matter Code: C-26 Avrging pds&Exceedence Freq.

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Comment ID: CTR-003-002  
Comment Author: City of Riverside  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: C-26 Avrging pds&Exceedence Freq.  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: 2) We agree with commentors who argued that a 4-day average period and a once in three year exceedance frequency is unnecessarily restrictive for chronic criteria exceedances. In fact, it would seem reasonable to assume that isolated exceedances of chronic criteria would have no discernable long term effect on a water body. Further, so long as acute criteria are not also exceeded, a rapid recovery period would seem likely, What case studies and/or laboratory results does EPA have to support this finding? Also, what data is EPA relying on for the three year excursion frequency for acute failures? Based on the evidence of recent major environmental calamities, aquatic systems appear to right themselves very quickly after initial cleanup, typically within one year.

Response to: CTR-003-002

See response to CTR-020-014.

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Comment ID: CTR-009-007  
Comment Author: City of Thousand Oaks  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: C-26 Avrging pds&Exceedence Freq.  
References:  
Attachments? Y

**CROSS REFERENCES**

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Comment: The rule states that the CMC "equals the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects." What is a "short period of time" defined as? This definition, as it stands, is vague to the point it will require, and be subject to, various interpretations by different entities and individuals. It puts the regulated community in the position of having to make independent judgments as to what the proscribed activity is, case-by-case. This is inappropriate, and will lead to unnecessary conflict. The City recommends that EPA define "short period of time" more precisely, and present the scientific basis for such definition in the final rule.

Response to: CTR-009-007

EPA does not agree that it is necessary to further define "short period of time" within the rule. The reason that it is not numerically specified is that the appropriate averaging period varies from pollutant to pollutant, and is not as well defined as, nor is as important as, the criteria concentrations, which are numerically specified in the rule. EPA is deferring to the State implementation procedures for the application of acute averaging periods into NPDES permit limit calculations, because these implementation procedures primarily involve mixing zone policies, which are at State responsibility, and are not part of this rule.

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Comment ID: CTR-020-008

Comment Author: City of Stockton

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-26 Avrging pds&Exceedence Freq.

References:

Attachments? Y

CROSS REFERENCES

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Comment: II. Use of New Scientific Information The City acknowledges and supports the EPA's update of several water quality criteria including those for mercury, cadmium and arsenic. While a number of criteria were updated to reflect current scientific information, there are a few notable exceptions. The following briefly addresses the key updates and omissions that should be addressed in the final publication of this rule.

#### 4. Averaging Period for Acute Criteria

The proposed rule does not establish a specific averaging period for acute criteria, apparently abandoning the published criteria recommendation that acute criteria should be applied as one hour averages. EPA now states that the exposure time should be "short." While Stockton concurs that a one hour averaging period is not supported by the underlying data and is inconsistent with the permit development procedures in EPA's 1991 Technical Support Document for Water Quality-based Toxics Control ("TSD"), the failure to explain why EPA is no longer recommending a one hour averaging period will lead to confusion and misapplication of the criteria. At a minimum, EPA should explain that "short" means at least 24 hours so that inconsistencies in permitting do not occur.

Thus, the final CTR should discuss the technical basis for this change and identify the acceptable exposure period.

Response to: CTR-020-008

EPA does not agree. The appropriate acute averaging period is not necessarily greater or equal to 24 hours for each of the pollutants. See response to CTR-009-007.

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Comment ID: CTR-020-009

Comment Author: City of Stockton

Document Type: Local Government

State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-26 Averging pds&Exceedence Freq.

References:

Attachments? Y

CROSS REFERENCES

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Comment: II. Use of New Scientific Information The City acknowledges and supports EPA's update of several water quality criteria including those for mercury, cadmium and arsenic. While a number of criteria were updated to reflect current scientific information, there are a few notable exceptions. The following briefly addresses the key updates and omissions that should be addressed.

(a) EPA's Characterization of Metals as Fast Acting Toxicants is Erroneous

Water quality criteria established pursuant to Section 304(a) of the CWA classify pollutants as acute, chronic, or human health-based depending on the pollutant's mode of toxicological activity. The classification of a pollutant significantly affects the manner in which criteria are applied and effluent limitations are derived. Many factors affect the proper translation of water quality criteria into NPDES permit limits, including modeling, permit averaging periods, low flow return frequency, mixing zones, and assumptions made in the modeling process. In addition, criteria require appropriate "duration" and "frequency of exposure" factors which are directly related to the time required for exposure to a pollutant to elicit a biological response (e.g., mortality). Any arbitrary reduction of the allowable exposure period (or the acceptable return frequency) establishes more stringent criteria than necessary to ensure use protection.

EPA's proposed acute averaging period recommendation (short) has a substantial effect on mixing zone calculations. This policy assumes that short term exposures to concentrations slightly in excess of the acute criteria can produce mortality to swimming or drifting organisms (ie., the "fast acting toxicant assumption"). If 24-48 hour exposures are acceptable, the acceptable and protective mixing zones would increase substantially. This reduces the costs of compliance and the need to construct expensive diffusers except in situations where true acute toxicity concerns exist.

The CWA section 304(a) criteria and EPA's 1991 TSD establish EPA's position on criteria application. As more fully set forth below, EPA's assumption that all heavy metals are "fast acting toxicants" is not supported by EPA's recently completed research which was expressly intended to evaluate this issue as part of the February 15, 1995 National Toxics Rule settlement. EPA has recently acknowledged this fact with respect to copper in its Marine Copper Criteria published on April 14, 1995. Consistent with its CWA section 304 mandate, EPA must modify all metals criteria to accurately reflect the latest information regarding the toxicological rate of action for metals. To do otherwise is arbitrary and capricious, and EPA must provide the public with the results of the recent scientific research about characteristics of each pollutant and their proper averaging period.

Response to: CTR-020-009

EPA does not agree. EPA has not assumed that all toxicants are fast-acting for purposes of applying the CMC to define permit limits. The provisions of the rule were specifically designed not to incorporate such an assumption. EPA is deferring to the State implementation procedures for the application of acute averaging periods into NPDES permit limit calculations.

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Comment ID: CTR-020-010  
Comment Author: City of Stockton  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-26 Avrging pds&Exceedence Freq.  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: II. Use of New Scientific Information The City acknowledges and supports EPA's update of several water quality criteria including those for mercury, cadmium and arsenic. While a number of criteria were updated to reflect current scientific information, there are a few notable exceptions. The following briefly addresses the key updates and omissions that should be addressed in the final publication of this rule.

(1) Short (One Hour) Acute Averaging Period for Metals is Unnecessarily Restrictive and Without Any Technical Basis

The chronology of EPA's one hour averaging period illustrates a continued adherence to the outdated "fast acting toxicant" assumption that is unsupported. As the following discussion shows, the Agency has acknowledged a dearth of scientific support for the one hour assumption through repeated Freedom of Information Act ("FOIA") requests. Recently EPA released the analytical data underlying its time/toxicity assumptions for metals which confirm metals are not "fast acting."

Acute criteria are generally developed based on 48-96 hour exposures.(\*1) In establishing its criteria, EPA arbitrarily reduced "acute" exposures to one hour without any supporting data and continues to assert that the one hour or short acute averaging period is appropriate. Actually, acute criteria underwent two transformations. EPA initially determined the 96 hour no effect concentration to establish the numeric criteria; it then arbitrarily reduced the allowable exposure period from 96 hours to one hour without a corresponding adjustment to the numeric criteria or a determination that this additional adjustment was necessary.

(2) Initial Agency Research on Issue

EPA has been in the process of reconsidering the historically recommended one hour acute averaging period for over eight years. In October 1989, the Agency completed an internal report specifying that existing averaging periods for acute and chronic criteria may be unduly restrictive and that more reasonable approaches may be implemented.(\*2)

In response to comments on EPA's 1991 TSD, the Agency admitted that:

The one hour acute averaging period was derived primarily from the data on response time for toxicity to ammonia, a "fast acting toxicant."(\*3)

Research performed by Mancini (1983), cited in the 1991 TSD, verifies EPA's assumption is incorrect.(\*4) Erickson (1989) noted that for fathead minnows, copper LC50s increase gradually by a

factor of two (2) between the 96 hour and 12 hour exposure durations. LC50s were ten-fold higher at two to three hours than at 96 hours.(\*5) This is hardly a "fast acting" toxicant. Research by Brown (1974) indicated that a one hour exposure of rainbow trout to copper elicited no acute response at twenty times 96-hour LC50 concentrations.(\*6)

### (3) EPA Commits to Reevaluate the Fast Acting Toxicant Assumption

At the January 1993 Annapolis Conference, EPA and academic scientists, including state regulatory officials, called on the Agency to assess whether overly conservative assumptions are leading to permit limitations which can be orders of magnitude more stringent than needed to protect aquatic life uses. EPA identified several high priority research goals, including the accurate assessment of toxicological kinetics of metals and committed to address whether metals are, in fact, "fast acting" toxicants.(\*7)

At a public meeting of EPA's Criteria Review Committee in June 1993, the Science Advisory Board presented copper mortality data that confirmed copper concentrations many orders of magnitude higher than current acute criteria would be required to elicit mortality within a one hour exposure time (Exhibit 3). EPA stated its intention was to utilize such time/mortality studies to derive an appropriate criteria averaging period:

The Committee tentatively intends to incorporate the use of a kinetic model of toxicity into the Guidelines. This model allows more rigorous use of data from toxicity tests, and should better represent the effects of time-varying concentrations occurring in ambient applications... The data on the time course of mortality would yield a rate coefficient indicating how quickly mortality occurs. This rate coefficient would replace the current averaging period.(\*8)

Unfortunately, EPA revealed a lack of urgency in addressing the toxicological speed of action issue for metals, leaving many dischargers exposed to unnecessarily stringent requirements. An October 27, 1993 letter from the Assistant Administrator for Water stated:

"...the analysis is not yet complete. Once completed, we will circulate it for public review... Completion, of course, is dependent on available resources, particularly in light of competing statutory and court-ordered mandates."(\*9)

Ironically, EPA in the same letter disclosed that the one hour averaging period for metals is a "default value" without any technical basis:

"EPA does not have any specific data on metals discharged near or above criteria levels showing acute impacts in one which is expected to be protective for both fast-acting and slower toxicants."(\*10)

In early 1994, EPA asserted it was actively addressing the recommendations made at the Annapolis Conference that toxicant speed of action be revised, and in correspondence to the Pennsylvania League of Cities and Municipalities, the Agency asserted that data analyses were underway at that time:

"You have raised several questions concerning the speed of action of toxic effects of metals. We agree that this issue warrants further investigation. Our plan is to definitively address the issue with a new criteria methodology which will explicitly incorporate data with regard to speed of action on a pollutant-by-pollutant basis. Our present policy is to make a single, conservative assumption on speed of action for all pollutants, in the absence of appropriate data and methodologies to do the pollutant-by-pollutant analysis. We are investigating whether we have sufficient information to issue interim guidance now, modifying this policy on speed of action for some pollutants or classes of

pollutants."(\*11)

#### (4) Results of Analysis Confirm Metals Are Not Fast Acting

In a February 28, 1994 response to a FOIA request, EPA acknowledged that data pertaining to toxicity/time relationships for metals are available and that preliminary analyses of available data indicate that the one hour period is unnecessarily conservative:

...the averaging period for copper, zinc, and lead would be about 1 day, while cadmium and arsenite would have an averaging period of about 2.5 days.

... for the above metals [copper, zinc, lead, cadmium, and arsenite] their action can be "fast" in the sense that a short exposure can be lethal, but only at somewhat higher concentrations than those which are lethal for exposures of a day or longer. Even the more fast-acting of the above metals would not require an averaging period as short as a few hours, but a major fraction of a day or longer.(\*12)

In an August 22, 1994 letter to Rep. Robert Borski, EPA's Assistant Administrator for Water asserted that the Agency was diligently pursuing completion of studies to better define the toxicological speed of action for metals.

"Consistent with the recommendations from this group, EPA hopes to improve our water quality based approach and better characterize the conservative and nonconservative assumptions associated with the methodology. This would include the guidance addressing fast- and slow-acting metals in the Spring of 1995."(\*13)

In September 1994, the EPA Aquatic Life Guidelines Committee met to address issues concerning the derivation of aquatic life criteria, including potential modifications to earlier assumptions related to the speed of action:

"Whereas the 1985 Guidelines use only the survival results at the end of 48- or 96-hour tests, the new framework would also use survival counts taken at various times throughout the tests. These data would be evaluated within the framework of a kinetic-based toxicity model (Mancini, 1983; Erickson, et al., 1989), intended to consider the speed at which effects appear in different individuals and different concentrations."(\*14)

From the most recent Agency information available, it is apparent that EPA has completed the studies and re-evaluations of criteria development data necessary to derive appropriate averaging periods for metals. EPA has indicated to at least one state that studies of the toxicological kinetics of metals have been completed and that the Agency has concluded that a 24 hour acute averaging period is protective of aquatic life uses based on those studies, as follows:

"The NJDEP has discussed criteria durations with Charles Delos, Ecological Risk Assessment Branch, Health and Ecological Criteria Division, USEPA, Washington, D.C. Our understanding is that the recent reevaluation of "fast acting" toxicants has been completed for cadmium, chromium, copper, lead, mercury, nickel, silver and zinc. The results of that reevaluation indicate that an acute criteria duration of 24 hours would be protective for these metals."(\*15)

EPA acknowledged that a 24 hour acute averaging period is appropriate for copper in its April 14, 1995 Ambient Water Quality Criteria for Copper - Saltwater Copper Addendum. This conclusion was consistent with the evaluation presented by Erickson in 1993 and the subsequent letter to the New Jersey

DEP.

(5) Conclusion

Based on the data provided by EPA pursuant to FOIA, there is no scientific basis to assume all pollutants, particularly metals, are "fast acting" toxicants and that the time period necessary to ensure avoidance of acute impacts is "short." In newly issued marine criteria, the Agency acknowledged that a 24 hour averaging period is appropriate for copper (one of the fastest acting metals) and thus should similarly modify criteria application procedures for other metals to be consistent with the available data. The continued application of a one hour or short averaging period for metals in the CTR is scientifically flawed, inconsistent with the available data, and arbitrary and capricious. EPA should re-propose the CTR with the metals acute averaging periods changed from one hour to 24 hours consistent with the research and EPA's conclusions on the marine copper criteria. To the degree that data are available regarding other constituents, the appropriate acute averaging period should be specified for these criteria. If no information is available and the criteria are based upon 96 hour no effect results, the applicable averaging period should not be less than 24 hours, which constitutes a significant margin of safety given the data available in the record and the 96 hour exposure duration used to establish the acute criteria.

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(\*1) See, USEPA's Ambient Water Quality Criteria for Copper (1984); Ambient Water Quality Criteria for Cadmium (1984); Ambient Water Quality Criteria for Lead (1984); and Ambient Water Quality Criteria for Zinc (1997).

(\*2) Report on the Feasibility of Predicting the Effects of Fluctuating Concentrations on Aquatic Organisms and Possible Application to Water Quality Criteria USEPA ORD (September 21, 1989).

(\*3) EPA's Technical Support Document Responsiveness Summary (1991) at 8.

(\*4) Mancini, J. A Method for Calculating Effects on Aquatic Organisms of Time Varying Concentrations. 17 Water Res. 1355-1362 (1983).

(\*5) Erickson, R., Kleiner, C., Flandt, J., Highland, T. Report on the Feasibility of Predicting the Effects of Fluctuating Concentrations on Aquatic Organisms and Possible Application to Water Quality Criteria. USEPA Duluth Laboratory (September 1989).

(\*6) Brown, V.M., et al. Aspects of Water Quality and the Toxicity of Copper to Rainbow Water Research, Vol. 8, p. 797-803 (1974).

(\*7) Memorandum from Martha G. Prothro, USEPA, dated April 1, 1993.

(\*8) Aquatic Life Guidelines Status Report No. 3 (June 16, 1993).

(\*9) Letter from Robert Perciasepe, USEPA, to Congressman Tim Holden, dated October 25, 1994.

(\*10) Id. See also, February 22, 1994 letter and ten attachments from C. Delos (EPA) to Jay Himes (Pennsylvania League of Cities and Municipalities) in response to a FOIA request (attached in part hereto as Exhibit 4).

(\*11) Letter from Robert Perciasepe, USEPA, to Jay Himes, Pennsylvania League of Cities and Municipalities, dated March 30, 1994.

(\*12) Memorandum from Russell Erickson, USEPA, to Charles Delos, USEPA, in response to FOIA request, dated February 28, 1993.

(\*13) Letter from Robert Perciasepe, USEPA, to Congressman Robert A. Borski, dated August 22, 1994.

(\*14) Delos, C. "Possible Revisions to EPA's Procedure for Deriving Aquatic Life Criteria." Presented at Water Environment Federation (October, 1994), cited in correspondence dated August 17, 1994 as expressing the Aquatic Life Guidelines Committee's views on criteria revision.

(\*15) Letter from Lewis J. Nagy, Assistant Commissioner, Policy and Planning, New Jersey Department of Environmental Protection, to Robert Perciasepe, USEPA, dated May 5, 1995.

Response to: CTR-020-010

EPA does not agree that a "short period of time" equals one hour. In consideration of the developments described in the comment, the one-hour averaging period that EPA had previously specified for the CMC, for example in the 1991 TSD, was not incorporated into the rule. See also responses to CTR-020-009 and CTR-009-007.

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Comment ID: CTR-020-014

Comment Author: City of Stockton

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-26 Avrging pds&Exceedence Freq.

References:

Attachments? Y

CROSS REFERENCES

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Comment: II. Use of New Scientific Information

The City acknowledges and supports EPA's update of several water quality criteria including those for mercury, cadmium and arsenic. While a number of criteria were updated to reflect current scientific information, there are a few notable exceptions.

The following briefly addresses the key updates and omissions that should be addressed in the final publication of this rule.

### 3. Chronic Criteria Averaging Periods

Chronic criteria averaging periods have not been updated despite a commitment by EPA to reevaluate this factor as part of the NTR settlement. EPA acknowledges that the chronic criteria are based primarily upon 28 day or longer tests. The chronic criteria are set at the continuous exposure, no effect level. There is no clear rationale why the continuous-safe exposure period was reduced to four days. This affects the selection of design flow used to apply the criteria (7/Q/10 vs. 30/Q/5) and the manner in which the chronic criteria may be applied to wet weather flows. Given EPA's conclusion that these

criteria establish long term no effect exposure levels, continued use of a four day averaging period is unduly restrictive and inconsistent with EPA's regulatory mandate to only establish criteria and implementing procedures that are "necessary" to protect aquatic life uses (40 C.F.R. section 131.2)

(a) Continued Recommendation of Four Day Averaging Is Inconsistent with the National Guidelines

The National Guidelines and EPA's 1991 TSD recognize that the federally recommended return frequency and low flow (7/Q/10) for applying chronic criteria were based on studies of ecosystems recovering from high exposures (spills) causing acute stress. The application of acute criteria to stringent low flows and use of acute bioassay tests has addressed that concern and prevents acute stress from occurring more frequently than once in ten years. Therefore, it is no longer rational to conclude that minor chronic stress needs to be regulated as rigorously as avoidance of acute stresses (which was one of the underlying purpose of the reduced averaging period and return frequency policy). To a certainty, there is no information in EPA's record showing that exceeding chronic criteria levels over a four day period once in three years has ever been associated with discernible adverse impacts. To the opposite, field studies reported in the 1991 TSD indicate that chronic criteria are very conservative and that longer term exposures which allow four day averages well above the chronic value do not result in adverse impacts on beneficial uses when applied on a once in three year exceedance frequency.

The preamble to the CTR speculates that it is necessary to utilize a four day averaging period to reflect the shorter life span of certain organisms. The only organisms with such short life spans are insects that reproduce rapidly and abundantly. The conservative three year return frequency is not related to the time period necessary for insects to recover from minor chronic stress. This value was based on fish re-population which occurs much more slowly. Accordingly, there is no apparent technical relationship between the underlying basis for the acceptable return frequency and the need to add further conservatism to the chronic averaging period. As the return frequency was based on fish populations, the acceptable averaging period should also reflect that type of organism. Clearly, a thirty day averaging period, consistent with the duration of the chronic tests, should be acceptable and fully protective of beneficial uses.

EPA's latest research, which was released pursuant to FOIA requests, indicates that for chronic criteria, a two to five percent exceedance frequency (versus 0.4 percent) should not result in adverse use impacts and would be acceptable. Moreover, as noted above, all research on the standards to permits process confirms that the existing procedures add an additional "level of protection" to conservatively developed criteria. Given this information, EPA should update its chronic criteria application procedures to at least reflect those found approvable - chronic criteria thirty day averaging for Maryland and Colorado

Response to: CTR-020-014

The final rule has been modified to allow the state, with EPA approval subsequent to public comment, to use alternate values for the chronic averaging period and for the exceedance frequency. EPA is certain that the four-day chronic averaging period and three-year return interval provide, at a minimum, a very high degree of protection, as explained in the 1991 Technical Support Document for Water Quality-based Toxics Control. Nevertheless, to allow consideration of current and future developments in the science underlying these parameters, the rule incorporates the flexibility of allowing the State to use of alternate values, with EPA approval, following public comment on any change.

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Comment ID: CTR-020-015

Comment Author: City of Stockton  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-26 Avrging pds&Exceedence Freq.  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: II. Use of New Scientific Information

The City acknowledges and supports EPA's update of several water quality criteria including those for mercury, cadmium and arsenic. While a number of criteria were updated to reflect current scientific information, there are a few notable exceptions.

The following briefly addresses the key updates and omissions that should be addressed in the final publication of this rule.

#### 4. Statistical Modeling

The proposed rule specifies the exceedance frequency (once in three years) and averaging period and list a number of return flows that may be used to ensure that the specified return frequency is not exceeded. The preamble also discusses the availability of alternate modeling approaches to more directly demonstrate that criteria compliance will occur as intended, such as statistical or probabilistic modeling. However, the CTR itself fails to specify that statistical modeling may be used to apply the criteria. This should be clarified in the final rule.

Response to: CTR-020-015

EPA favors the use of statistical and dynamic modeling and does not intend for the rule to preclude such modeling. In implementing the rule's criteria, the state may employ either steady state design flows or statistical or dynamic modeling.

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Comment ID: CTR-035-020  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-26 Avrging pds&Exceedence Freq.  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: p. 42174 --Chronic Averaging Period In general, we believe that EPA's proposed use of 4-day averaging periods for chronic (CCC) averaging periods is too short. The averaging period of four days recommended in EPA guidance is much shorter than the toxicity tests upon which the chronic criteria are

based, which is typically 20-30 days. This has the effect of incorporating an additional level of conservatism that has been estimated to be equivalent to a safety factor of two (Delos, 1990). Therefore, EPA should adopt longer averaging periods for chronic criteria for some constituents (for instance, for those metals for which the scientific studies show that metals do not act as fast as the criteria averaging periods would indicate). We recommend that EPA review the toxicity tests used and establish averaging periods that match the effects duration, even if they are different for different criteria. In addition, EPA should provide that any NPDES permits issued after the CTR is finalized should be subject to a reopener to allow for the insertion of a different averaging period in effluent limitations if the ongoing EPA analysis of the chronic design conditions as part of the revisions to the 1985 guidelines (referenced on p. 42174) leads to longer averaging periods.

Response to: CTR-035-020

EPA does not agree that a 4-day chronic averaging period is always too short. This averaging period is primarily based on the shortest duration in which effects appear in the Ceriodaphnia 7-day chronic test. However, EPA agrees that the 4-day chronic averaging period may not be appropriate for all pollutants, and has modified the final rule to allow use of alternate averaging periods. See also responses to CTR-020-014 and CTR-060-012.

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Comment ID: CTR-035-028

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-26 Avrging pds&Exceedence Freq.

References:

Attachments? N

CROSS REFERENCES

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Comment: p. 42182 -- Averaging Period for Acute Criteria (CMCs) EPA should identify a specific duration for acute (CMC) criteria beyond the current description of "short term" and provide an explanation of this choice. We believe that in many cases (e.g. metals) recent data suggest that the constituents are not as fast-acting as once-believed and that 24-hours is a more appropriate acute averaging period than the 1-hour averaging period previously used. Therefore, we recommend that EPA adjust the acute averaging periods to reflect such information.

Response to: CTR-035-028

See responses to CTR-009-007, CTR-020-010, and CTR-020-014.

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Comment ID: CTR-035-031

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-26 Avrging pds&Exceedence Freq.

References:

Attachments? N

CROSS REFERENCES

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Comment: p. 42184 -- Frequency of exceedence We believe that adoption in the regulation of the proposed exceedence frequency, once in three years for acute and chronic criteria, should be deferred until EPA completes its review of this issue. As EPA points out, there are numerous scientific issues being reexamined. For streams in and areas, for instance, EPA should consider that annual flooding and scouring may occur, as well as droughts (leading to no flow during the dry season), and the natural communities adapted to these environments may be capable of recovering from such major disturbances in a year or less. Since EPA does not include any evidence in this rulemaking to support the application of this allowable frequency in California, we recommend that EPA not formalize this policy in the CTR.

Response to: CTR-035-031

See response to CTR-020-014.

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Comment ID: CTR-036-007a

Comment Author: County of Orange

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-26 Avrging pds&Exceedence Freq.

References: Letter CTR-036 incorporates by reference letters CTR-013, CTR-018, CTR-031, CTR-034 and CTR-040

Attachments? N

CROSS REFERENCES G-03

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Comment: We are concerned that EPA has preempted the State's flexibility by establishing averaging periods for applying acute and chronic aquatic life criteria and for establishing low flow conditions that must be used in developing limits based on the proposed criteria. We recommend that such implementation issues remain within State authority.

Response to: CTR-036-007a

See response to CTR-020-009.

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Comment ID: CTR-037-007

Comment Author: Hampton Roads Sanitation Dist.

Document Type: Sewer Authority

State of Origin: VA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-26 Avrging pds&Exceedence Freq.

References:

Attachments? N

**CROSS REFERENCES**

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Comment: 7. EPA is requiring, by rule, that the averaging period for the CMC be 1 hour. However, EPA is also working towards new methods to calculate water quality criteria which acknowledge that the CMC averaging period should probably be closer to 24 hours. This is not being acknowledged in the rule even though the Agency has released this information at various meetings. The one hour averaging period for the CMC is overly stringent and should not be adopted by rule. The averaging period for the CMC being proposed is not technically defensible and arbitrary, therefore it should be removed from the rule until EPA finalizes its study of the issue.

Response to: CTR-037-007

See responses to CTR-020-010 and CTR-020-009.

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Comment ID: CTR-037-009

Comment Author: Hampton Roads Sanitation Dist.

Document Type: Sewer Authority

State of Origin: VA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-26 Avrging pds&Exceedence Freq.

References:

Attachments? N

**CROSS REFERENCES**

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Comment: 9. EPA is requiring that criteria not be exceeded more than once every three years, on average, EPA, however, is ignoring the fact that this exceedance rate is based on catastrophic events and that minor exceedances require much less time for biological communities to reach their pre-exceedance conditions. This rule is adopting a requirement which often-times will be overly protective with little or no environmental benefit. The basis of the three year exceedance requirement has been acknowledged by EPA's Aquatic Life Criteria Work Group as conservative and unnecessary when exceedances are minor. The rule must be modified to accommodate minor exceedances if justified scientifically. EPA must technically justify the exceedance frequency that it is requiring by rule to insure that resources will not be expended needlessly by permittees.

Response to: CTR-037-009

See response to CTR-020-014.

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Comment ID: CTR-040-018a

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-26 Avrging pds&Exceedence Freq.

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES G-03

C-30

C-24e

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Comment: V. Recommendation: Delete all provisions in the Rule that preempt the States flexibility in permitting. The Rule provides specific direction on the adoption of averaging periods, low flow values, effluent limitations for criteria not being adopted as a part of the Rule, and that the aquatic life criteria be applied to all waters irrespective of designated use, etc..

\* The Preamble and the Rule's economic analysis make a point that the State has considerable flexibility in establishing permit limitations. In making, that point, EPA implies that the State may implement the criteria in a manner that would have little or no adverse economic impact on dischargers.

\* However, the Rule contains a number of implementation provisions that are not required under Section 303(c)(2)(B), but serve to preempt the State's flexibility. These provisions include, but are not necessarily limited to the adoption of averaging periods and low flow values, directives regarding the establishment of effluent limitations for criteria that are not being adopted as a part of the Rule, and application of the aquatic life criteria to all waters irrespective of the designated use.

\* Not only does EPA not have a duty to adopt these provisions, but also the provisions are more restrictive than those required by the CWA or EPA regulations, They clearly restrict the State's flexibility. In fact, other states have adopted, and EPA has approved, implementation provisions (e.g., averaging periods and low flow values) which are less restrictive.

\* For these reasons, EPA should remove all such implementation provisions from the Rule.

Response to: CTR-040-018a

EPA does not agree that the averaging periods and low flow values apply to the criteria other than those adopted by this rule. They do not to apply to other State criteria. However, EPA agrees that other averaging periods and exceedence frequencies may be appropriate for the criteria concentrations included in this rule, and has provided for such in the final rule. See response to CTR-020-014.

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Comment ID: CTR-060-012

Comment Author: San Diego Gas and Electric

Document Type: Electric Utility

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-26 Avrging pds&Exceedence Freq.

References:

Attachments? N

CROSS REFERENCES

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Comment: PROVISIONS SDG&E DOES NOT SUPPORT

As described in the following comments SDG&E does not support the following provisions:

Over-conservativeness of chronic aquatic criteria due to averaging period

The preamble to the rule (see 62 Fed. Reg. at 42,174, Col. 2) states that most of the toxicity tests used to calculate the chronic criteria were conducted over a 28 day period. However, even though the preamble (see 62 Fed. Reg. at 42,174, Col. 1) acknowledges that "...aquatic organisms can generally tolerate higher concentrations of pollutants over shorter periods of time", EPA proposes in this rule to set the chronic averaging period to 4 days. Consequently, concentrations from longer term (i.e., 28-days) tests, which would generally result in lower concentrations which are considered toxic, are being implemented as 4-day average criteria, even though criteria developed from toxicity tests conducted over a 4-day period would generally result in criteria which are higher. This approach results in criteria that are more restrictive than necessary to protect the state's beneficial uses. The criteria should either: 1) be restated as 28-day average criteria; or 2) be recalculated as criteria representative of 4-day average tests.

Response to: CTR-060-012

The averaging period is shorter than the toxicity tests on which the criterion is based because (a) exposure concentrations in the toxicity tests are nearly constant, (b) exposure concentrations in the field, over the duration of the averaging period, can be rather variable, and (c) variable concentrations yield greater toxicity than a constant concentration equal to the mean of the variable concentrations. Consequently, if the laboratory toxicity tests had employed variable concentrations, the reported effect concentrations (as the mean over the test duration) would be lower than if the test employed constant concentrations. To account for this phenomenon, the criteria averaging period is shorter than the tests on which the criterion is based. Note, however, that EPA is employing flexibility into the rule in order to provide for advances in the state of the science in setting averaging periods. See the response to CTR-020-014.

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Subject Matter Code: C-27 Additive/Synergistic Effects

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Comment ID: CTR-026-002b

Comment Author: Cal. Department of Fish & Game

Document Type: State Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-27 Additive/Synergistic Effects

References:

Attachments? N

CROSS REFERENCES C-17b

C-29

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Comment: 2. PARTIAL PROTECTION BY THE PROPOSED AQUATIC LIFE CRITERIA  
(FRESHWATER OR SALTWATER)

On page 42168, the proposed rule includes the following language: "EPA's guidelines are designed to derive criteria that protect aquatic communities by protecting most of the species and their uses most of the time." The CTR goes on to state that this approach results in only a "small possibility" of substantial overprotection or underprotection. Obviously, it is underprotection that is of concern to the DFG. The DFG has very serious concerns that criteria are being proposed that protect "most" of the species "most" of the time. We are aware of the protocols that require a minimum of eight specified families be used to develop criteria and that it may be difficult to determine criteria that are one hundred percent protective; however, this does not preclude the real possibility that certain designated uses and aquatic organisms will not be maintained, and or protected, as a result of the proposed criteria. The DFG is also concerned that criteria and protocols developed for specific constituents do not take into account the additive or synergistic effects that contaminant combination may have on aquatic organisms. Another factor that needs to be considered is bioaccumulation, as well as the effect this may have on organisms at higher trophic levels.

As trustee of all the fish and wildlife resources in the State, it is our agency's responsibility to ensure appropriate protection of all fish and wildlife resources, not just "most", and this includes adequate water quality standards. Due to our concerns and the very real possibility of underprotection to aquatic organisms and designated uses, the DFG believes that it may be appropriate to derive the criteria as proposed, and subsequently develop some additional safety factors for inclusion. It is our understanding that this approach was used in the formulation of water quality objectives for protection of aquatic organisms in the California Ocean Plan. In the short term, the safety factor could possibly be realized by the development of a comprehensive biological monitoring program to determine whether the proposed criteria are indeed fully protective.

Response to: CTR-026-002b

EPA agrees that the numeric values of those criteria that are not expressed as formulas do not account for additive or synergistic effects. However, EPA does not agree that this would mean that the criteria are not sufficient to protect the designated use. EPA has examined the potential for additivity. Data available to EPA suggest that in real world situations, additivity is usually not a significant issue, because most of the toxic stress is usually attributable to a single pollutant, even in systems receiving complex mixtures of discharges from large metropolitan areas.

To illustrate this, consider some 50 samples that EPA collected throughout New York Harbor, an large area extending from the Hudson River to New York Bight, and receiving a large volume of wastewater and runoff from a highly diverse set of discharges, representing a wide range of municipal, industrial, and agricultural activities. Six metals, Ag, Cd, Cu, Ni, Pb, and Zn were measured using clean techniques. For each sample, the toxic equivalents of each metal were calculated as the metal concentration divided by the its criterion. Assuming perfect additivity of toxicity, the toxic equivalents in each sample were added together to obtain the total toxic equivalents. One metal consistently dominated the toxic equivalents in each sample. On average, the combined toxic equivalents of all six metals was only 10 percent greater than the toxic equivalent of the dominant single metal. Among the 50 samples, the maximum ratio of the combined toxic equivalents to the dominant single toxic equivalent was only 19 percent greater than the single dominant toxic equivalent. Consequently, even assuming perfect additivity, the combined contribution of the other metals was minor compared to the contribution of the dominant toxicant.

The comment provides no data indicating that additivity or synergism are in reality significant problems. Nevertheless, the rule's provisions are capable of handling such problems if they exist. First, criteria expressed as formulas with hardness account for the effects of hardness (or lack thereof) and of parameters covarying with hardness. Second, the rule's provision for the water-effect ratio represents the current best technique for adjusting for unknown additive, synergistic, or antagonistic effects, if they exist. Consequently, EPA believes that its criteria are fully protective. Also see response to CTR-026-002a.

Nevertheless, as the commenter represents the State of California, EPA notes that to allay its concerns, if any remain, the State may adopt its own standards more stringent than those promulgated here by EPA.

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Comment ID: CTR-029-002e  
Comment Author: Center for Marine Conservation  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-27 Additive/Synergistic Effects  
References:  
Attachments? N  
CROSS REFERENCES C-17a  
C-17b  
A  
C-22  
C-29

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Comment: The Center for Marine Conservation (CMC) is a nationwide, nonprofit advocacy group dedicated to the conservation and enhancement of coastal and ocean life and resources. CMC submits these comments on behalf of its 16,000 members in California and over 120,000 members nationwide.

CMC applauds EPA's efforts to bring California into compliance with the Clean Water Act 303(c)(2)(B). Implementing numeric criteria that will protect the beneficial uses of California's waters is of great importance to the health of coastal and marine ecosystems, and so to CMC and its members. The

reliance in many areas of the state on narrative criteria threatens the health of most of the state's waters, thereby impacting both human health and the health of the state's economy that relies on clean water.

While CMC strongly supports the swift adoption of an Enclosed Bays and Estuaries Plan and an Inland Surface Waters Plan that contain numeric criteria for toxic pollutants, CMC also is concerned that many of the specific criteria contained in the proposed rule are weaker than those contained in published guidance. CMC also believes that the proposed rule can better protect certain subpopulations from harm caused by consumption of contaminated fish and shellfish. Finally, CMC is concerned that the economic analysis of the proposed rule over-emphasizes costs and under-reports the many benefits of improving water quality throughout the state. These three points are reviewed below.

#### In Light of Significant Threats to Water Quality, the Proposed Rule Should Contain the Most Stringent Criteria That Are Scientifically Defensible

Many of the criteria in the proposed rule are weaker than criteria in current published guidance. The proposed rule summarily states that the difference between the proposed, weaker criteria and the published guidance documents is "insignificant"(\*4); however, in light of the current contamination problems in California's waters today, any move backwards, particularly when spread out over the state, must be viewed as significant.

Any weakening of the criteria should be subject to close scrutiny and the most rigorous analysis, which the proposed rule itself does not do. Among other things, the criteria in the proposed rule may be underprotective because additive and synergistic effects were not considered; and because the effects on wildlife, which can be particularly significant for bioaccumulative chemicals, were ignored.(\*5) In addition, the proposed rule contains dissolved rather than total recoverable metals criteria, despite the fact that EPA acknowledges that total recoverable metals criteria are "scientifically defensible" and that they are more protective than dissolved metals criteria because they consider "sediment, food-chain effects and other fate-related issues," rather than simply water column impacts.(\*6)

Clean Water Act section 303(c)(2)(B) mandates the development of numeric criteria that will "support such designated uses [that are adopted by the State]." The statistics available on the health of the state's waters indicates that their use already is significantly threatened or impaired by toxics. The strongest criteria supportable by science are necessary to reverse this trend and begin to restore the state's waters.

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(\*4) 62 Fed. Reg. 42159, 42168 (Aug. 5, 1997).

(\*5) Id. at 42168.

(\*6) Id. at 42172.

Response to: CTR-029-002e

See response to CTR-026-002b.

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Subject Matter Code: C-28 Detection Limits

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Comment ID: CTR-005-009  
Comment Author: Novato Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/23/97  
Subject Matter Code: C-28 Detection Limits  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: 8. EPA should not adopt criteria for any pollutant where the method detection limit exceeds the objective and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses. The proposed rule includes criteria for a number of constituents where there is insufficient data to determine whether the discharge of such pollutants could reasonably be expected to interfere with the designated uses. EPA has chosen to promulgate criteria for these constituents even though section 303 (c)(2)(B) of the Clean Water Act requires States to adopt numeric criteria only for constituents "...the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses."

Clearly, this "play-it-safe" approach goes beyond the requirements of the Clean Water Act and is therefore unnecessary. By taking this approach, however, EPA is unable to fulfill its duty (under Presidential Order 12866, the Unfunded Mandates Reform Act), and the Regulatory Flexibility Act) to assess the costs, benefits, and impacts of the rule on local government and small entities. While this may be the "safe" approach for EPA, it places dischargers throughout the State at risk. As analytical detection limits improve down the road, dischargers may find they are unable to achieve the criteria without costly end-of-pipe controls. But, by then, it will be too late for EPA to evaluate the costs and benefits of the criteria and alternative criteria. For these reasons, EPA should not adopt criteria for those constituents. If EPA does not do this, it should evaluate the costs and benefits of the criteria, as well as alternative criteria, using worst case assumptions (i.e., assume that discharge levels and ambient levels are at the detection limits).

Response to: CTR-005-009

See response to CTR 034-010b and CTR-060-010

EPA disagrees that the Agency should exclude those criteria that are below the method detection limits from this rule. EPA's water quality standards regulation at 40 CFR 131.11 requires that criteria be adopted by the States at concentrations necessary to protect the designated use. Given this requirement, consideration of analytical detectability is not an appropriate factor to consider when calculating water quality criteria to protect designated uses since they are not related to actual environmental impacts. In consideration of both statutory (CWA Section 303(c)) and regulatory (the Water Quality Standards Regulation at 40 CFR 131.11) requirements that water quality standards, which includes water quality criteria, must be protective of the designated uses of waterbodies, EPA has determined that such consideration of analytical detection limit is not an appropriate factor to consider in developing the water quality criteria component of water quality standards since the detection limits are not related to actual

environmental impacts. This has been EPA's longstanding position since the inception of the water quality standards program in 1965 (see also EPA's discussion on this issue in the National Toxics Rule at 57 FR 60876, 57 FR 60870).

EPA's methodology for deriving aquatic life criteria are primarily based on laboratory bioassays with sensitive aquatic organisms. The results from these tests are analyzed by mathematical procedures outlined in EPA's aquatic life criteria methodology guidelines. EPA's human health criteria are based on protocols generally using toxicity studies performed on laboratory animals such as rats and mice. Thus, EPA's aquatic life and human health criteria are based solely on health effects without regard to chemical analytical methods or techniques. Deleterious effects can occur to both humans and aquatic organisms at concentrations that are below the analytical detection levels.

As previously noted, EPA's Water Quality Standards Regulation requires that criteria be adopted at concentrations that are necessary to protect designated uses. The criteria promulgated today meet that requirement while EPA's policy with respect to regulatory compliance, which is discussed below, takes analytical sensitivity and precision into consideration.

In the preamble of the proposed rule, EPA referenced the Agency's 1990 guidance (Strategy for the Regulation of Discharges of PHDDs and PHDFs from Pulp and Paper Mills to Waters of the United States, memorandum from the Assistant Administrator for Water to the Regional Water Management Division Directors and NPDES State Directors) on how water quality based effluent limits for constituents with water quality criteria that are below the sensitivity of official analytical methods can be established. However, EPA acknowledges that in more recent guidance than that cited in the preamble to the proposed rule the Agency recommends use of the Minimum Level (ML) rather than the Method Detection Limit (MDL) for reporting sample results to assess compliance with a water quality based effluent limitation (WQBEL). See Technical Support Document for Water Quality-based Toxics Control, U.S. EPA Office of Water, EPA/505/2-90-001 (March 1991) at page 111. The ML, also called the quantification level, is the level at which the entire analytical system gives recognizable mass spectra and acceptable calibration points, i.e., the point at which the method can reliably quantify the amount of pollutant in the sample. More recently, in the Final Great Lakes Water Quality Guidance (see 50 FR 15424, March 23, 1995), EPA included a provision which allowed permitting authorities to utilize the minimum level (ML) for the method specified in the permit to monitor the amount of pollutant in an effluent down to the quantification level. States can use their own procedures to average and otherwise account for monitoring data, e.g., quantifying results below the ML. These results are then used to assess compliance with the WQBEL. See 40 CFR Part 132, Appendix F, Procedure 8.B.

Further, EPA notes that the purpose of today's rule is to establish ambient water quality criteria for priority toxic pollutants in California. Implementation of the criteria, including compliance with water quality based effluent limitations in permits are outside the scope of today's rule. However, the State of California, in its draft implementation procedures for the criteria included in today's rule (entitled "Draft Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California," September 11, 1997) has proposed provisions to address this issue. The State has elected to utilize the minimum levels in determining compliance with WQBELs.

EPA disagrees that there is insufficient data to support the inclusion of priority toxic pollutants in today's rule. In EPA's December 12, 1988 guidance to States on complying with CWA Section 303(c)(2)(B) (Notice of Availability published at 54 FR 346, January 5, 1989), EPA noted that at a minimum, States should adopt criteria for a pollutant if that pollutant was currently present or could potentially be present in State waters the future. EPA's guidance highlighted the Agency's position that any information indicating that a pollutant was discharged or present in a waterbody is justification that a pollutant could

be reasonably expected to interfere with the designated uses, and therefore would need to be included in a State's water quality standards regulation. EPA has determined that adequate information exists in the rulemaking record to show that the priority toxic pollutants in today's rule can be reasonably expected to interfere with the designated uses of waters in California. Moreover, since these criteria are ambient criteria, they do not in and of themselves require control of a discharge. Only where a discharge has a reasonable potential to exceed the water quality criterion would an effluent limit for that pollutant be placed in an NPDES permit. See Response to CTR-003-010b and CTR-036-005.

In promulgating today's rulemaking, EPA is complying with the same Section 303(c)(2)(B) guidance issued to the States. Thus, the lack of widespread monitoring data or data that does not meet analytical detection limitations is not a sufficient basis for excluding numeric criteria for priority toxics from today's rule. As EPA previously stated, consideration of analytical detection limits is not appropriate in establishing criteria. EPA also notes that the commenters did not submit any analyses or information to support the assertion that the coverage of priority toxic pollutants included in today's rule is based on insufficient or reliable data. In addition, EPA further notes that the priority toxic pollutants included in today's rule are the same priority toxic pollutants that the State of California had previously adopted in the Inland Surface Waters Plan and Enclosed Bays and Estuaries Plan to comply with CWA Section 303(c)(2)(B). Thus, the inclusion of the numeric criteria for priority toxic pollutants in today's rule is justified.

EPA disagrees with the commenter's assertion that the Agency, by including criteria that are below detection limits, cannot comply with statutory requirements of UMRA, RFA and Executive Order 12866. (See Sections G, I, and J of the preamble for EPA's analysis of this rule's compliance with these statutes and the executive order, respectively). EPA notes that the criteria included in today's rule establish ambient water quality criteria in California to comply with CWA Section 303(c)(2)(B) to protect the designated uses of the State's waterbodies. As EPA noted in the responses to comments raised on establishing criteria below detection limits, EPA's policy with respect to regulatory compliance for the criteria takes analytical sensitivity into account.

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Comment ID: CTR-011-002

Comment Author: City of Simi Valley

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-28 Detection Limits

References: Letter CTR-011 incorporates by reference letters CTR-027 and CTR-034

Attachments? Y

CROSS REFERENCES

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Comment: It is not possible to determine what risk levels would be needed to preclude end-of-pipe treatment for other human health criteria because in most cases the method detection limits exceed the criteria (see Table 2). The City recommends that EPA delay adoption of criteria for these constituents until sufficient detected data is available to assess attainability and perform the economic analysis required by Presidential Order 12866 and the Unfunded Mandates Reform Act. We understand that Section 303 (c)(2)(B) of the Clean Water Act does not require EPA to adopt criteria for constituents that could reasonably be expected to interfere with designated uses. In the absence of data on certain constituents, EPA could easily defend a position not to adopt criteria for those constituents.

Response to: CTR-011-002

See response to CTR-005-009.

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Comment ID: CTR-013-004

Comment Author: County of Los Angeles

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-28 Detection Limits

References: Letter CTR-013 incorporates by reference letter CTR-027

Attachments? N

CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following concerns which greatly impact the Los Angeles County Stormwater Program:

4. The proposed rule adopts criteria for pollutants where the method detection limit exceeds the criteria, and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses. The proposed rule contains many criteria in which the criteria are less than current acceptable laboratory detection limit. In other words, if a stormwater sample indicated a non-detect value in its stormwater discharge for certain pollutants, it cannot be determined if the proposed criteria were exceeded or if exceeded, what would be the reductions and costs necessary to achieve compliance.

If the proposed rule is adopted with these criteria, the discharger may find that they are in violation of the criteria, as laboratory techniques are improved in the future. By that time, the discharger has no recourse to require the USEPA to evaluate the cost and benefit of the criteria or alternative criteria. Furthermore, in that event, the discharger may face enforcement action and costly end-of-pipe controls.

We recommend that the USEPA not adopt criteria for any pollutant where the method detection limit exceeds the criteria and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses.

Response to: CTR-013-004

See response to CTR-005-009.

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Comment ID: CTR-020-020

Comment Author: City of Stockton

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: C-28 Detection Limits

References:

Attachments? Y

CROSS REFERENCES

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Comment: IV. Compliance / Detection Level

The rule specifies that limits may be set below the detection level for a pollutant but that compliance will be determined upon detection level for the pollutant. Thus, a non-detect will be considered in compliance with a permit limitation. The City concurs with the position that a non-detect reading should be considered in compliance with a limitation that is set below the reliable detection level.

Response to: CTR-020-020

See response to CTR-005-009.

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Comment ID: CTR-021-005b

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: C-28 Detection Limits

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES C-13

E-01c

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Comment: It is with a sense of reluctance that Sunnyvale joins in CASA/Tri-TAC's adverse comments on the CTR and the EA, and Sunnyvale does so in a spirit of constructive criticism and with an expectation that the Agency will make the necessary adjustments in its approach towards the CTR before the final rule is promulgated. In addition, in the same spirit and with the same expectation, Sunnyvale would like to make the following points on its own behalf:

2. Obligation to Assess Alternative Cancer Risk Levels for Human Health-Based Criteria. Sunnyvale is gravely concerned that EPA has used the wrong approach in proposing to establish human health criteria for organic pollutants, particularly those pollutants for which the proposed criteria are below the method level of detection ("MDL"). Sunnyvale recommends that EPA should thoroughly assess all of the potential impacts, including costs and benefits, of the 10E-4 and 10E-5 risk levels before proposing the human health-based criteria. As pointed out in the EOA Letter, there is a significant potential for advancing technology to lower the MDL for many pollutants to the point where laboratory equipment is able to measure some or all of the organic compounds for which EPA is proposing to establish criteria at the new level. It is intuitively obvious that the costs of attaining criteria set at the 10E-6 level will be significantly greater than attainment of a 10E-5 or 10E-4 level, particularly where, as pointed out in the EOA Letter, the only available method of treatment is granular activated carbon. Sunnyvale is concerned that the EA does not adequately address the potential for these costs, and, consequently, does not take these potential costs into account in determining whether to exercise its flexibility in choosing whether to

use a 10-4 , 10-5 or 10-6 cancer risk level as the basis for its CTR promulgation.

EPA is required by Executive Order 12866, the Regulatory Flexibility Act and the Unfunded Mandates Reform Act to identify and analyze alternatives to a proposed rule. We cannot understand, therefore, why EPA has done such a cursory analysis in the preamble to the CTR and the EA of the alternatives to the use of the most stringent (10E-6) risk level for establishing criteria for human health effects of pollutants, particularly organic pollutants. EPA cannot base its selection of the 10E-6 level based upon previous regulatory pronouncements by the State of California. Any new determination by the State will be subject to the analytical requirements of Section 13241 of the Porter-Cologne Act and by review by the Office of Administrative Law. Thus, it is not a foregone conclusion that the State will ultimately select the 10E-6 level. EPA has its own legal requirements to fulfill. Accordingly, we ask that EPA not promulgate the final human health criteria for the pollutants of concern unless and until it has adequately analyzed the costs and other implications of the various alternatives to the 10E-6 level.

In conclusion, we are entirely supportive of many of EPA's innovative approaches towards development of the CTR, particularly as regards the toxic metals. However, we believe that EPA has needlessly failed to comply with many of its legal obligations, particularly as regards the development of human health-based criteria on cancer risk levels of organic pollutants. We urge the Agency to reconsider its position in the matters covered by this letter (as amplified by the EOA Letter) and the CASA/Tri-TAC letter. Sunnyvale pledges its continued participation in place-based watershed management planning in the South Bay, its cooperation with the Agency in making a success of the WPI, and to an ongoing effort by the Agency and others to reach water quality goals in the South Bay. We thank you for the opportunity to comment on the proposed CTR.

Response to: CTR-021-005b

See response to CTR-005-009.

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Comment ID: CTR-027-004

Comment Author: California SWQTF

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-28 Detection Limits

References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040

Attachments? N

**CROSS REFERENCES**

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Comment: 4. The proposed rule adopts criteria for pollutants where the method detection limit exceeds the criteria, and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses. The proposed rule contains criteria for many pollutants in which the criteria are less than acceptable laboratory detection limits (e.g. N-Nitrosodi-n-propylamine has an analytical detection limit of 0.5 ppb and the proposed human health criteria of 0.005 ppb). Thus, if a stormwater agency notes a non-detect value in its stormwater discharge for N-Nitrosodi-n-propylamine, it cannot determine if the proposed criterion was exceeded.

Section 303(c)(2)(B) notes that States must adopt numeric criteria for constituents when "...the discharge

or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." However, the proposed rule includes criteria for a number of constituents where there are insufficient detected data to determine whether the discharge of such pollutant could reasonably be expected to interfere with the designated uses. Furthermore, one cannot determine the reduction and costs necessary to achieve compliance.

If the proposed rule is adopted with these criteria, the discharger may find that they are in violation of the criteria as laboratory techniques are improved in the future. By that time the discharger has no recourse to require USEPA to evaluate the cost and benefit of the criteria or alternative criteria. Moreover, in that event, the discharger may face enforcement action and costly end-of-pipe controls.

Recommendation: USEPA should not adopt criteria for any pollutant where the method detection limit exceeds the criteria and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses.

Response to: CTR-027-004

See response to CTR-005-009.

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Comment ID: CTR-030-009  
Comment Author: Utility Water Act Group  
Document Type: Trade Org./Assoc.  
State of Origin: DC  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-28 Detection Limits  
References:

Attachments? Y

CROSS REFERENCES

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Comment: E. EPA Needs to Clarify its Quantification Discussion and Delete References to the 1990 Dioxin Strategy

EPA states that "the use of analytical detection limits are [sic] appropriate for determining compliance" with the NPDES permit limits. 62 Fed. Reg, at 42,183, col. 3. The use of the term "detection" in that statement, rather than "quantification," may create concision and UWAG urges EPA to use the latter term. Over the past few years, EPA has consistently stated that, for determining compliance with WQBELs calculated at a level below the quantification level, the quantification level will serve as the compliance level. Use of the detection level in that context is entirely inappropriate. Measurements above the detection level, but below the quantification level, are sufficiently reliable to establish the mere presence - but not the amount - of a pollutant in a wastewater sample. Such measurements, therefore, cannot serve as the basis of compliance. Not only has EPA adopted that conclusion>(\*3) but the U.S. Court of Appeals for the District of Columbia Circuit just ruled on that very issue by holding:

A standard with which compliance cannot be assessed - and it is agreed that compliance with an effluent limitation set below the level of quantification simply cannot be assessed - is no standard at all for purposes of due process.

American Iron and Steel Institute v. U.S. EPA, 115 F.3d 979, 994 (1997) (AISI).

In addition, EPA's references to its 1990 dioxin strategy document, "Strategy for the Regulation of Discharges of PHDDs and PHDFs from Pulp and Paper Mills to Waters of the U.S." (Dioxin Strategy), are troubling. As described below, the Dioxin Strategy contains two significant flaws and thus citation to it may cause confusion in the regulated community. First, the Dioxin Strategy consistently references detection limits, rather than quantification levels. The above discussion explains UWAG's concerns with that approach.

The second major flaw of the Dioxin Strategy is its approval of the application of WQBELs to internal plant waste streams. The Dioxin Strategy states:

Where final, end-of-pipe effluent limitations are determined to be impractical or infeasible to measure, permitting authorities can, in accordance with the requirements of 40 CFR 122.45(h), establish limitations for internal plant waste streams from bleached plant processes.

Dioxin Strategy, p. 20.

As recently clarified by the AISI Court, the Clean Water Act provides no authority for the establishment of anything other than end-of-pipe WQBELS. In AISI, the petitioners challenged EPA's Great Lakes Water Quality Rule, including its requirement that each permit establish a pollutant minimization program (with effluent limitations for internal plant waste streams containing the pollutant) for each pollutant with an end-of-pipe limitation below the level of quantification. Although the Court agreed with EPA that the Clean Water Act allows monitoring of discharges from internal sources, it concluded that EPA could not impose a "point-source WQBEL upon a facility's internal waste streams." 115 F.3d at 996. Thus, the Dioxin Strategy's suggestion that it is appropriate to impose internal waste stream WQBELS is contradicted by the AISI Court.

For the reasons set forth in this subsection, UWAG requests that EPA remove all references to the Dioxin Strategy from the California Water Quality Standards rulemaking. UWAG encourages EPA to reference instead its "Questions and Answers on the Great Lakes Water Quality Guidance-Set 2", dated March 20, 1996 (GLI Q&A-2). In the GLI Q&A-2, the Agency explicitly allowed states to specify - directly within NPDES permits -- that analytical results below the level of quantification may be deemed to be in compliance with the established daily maximum WQBEL, and that zero may be used in lieu of measurements below the quantification level for averaging purposes in evaluating compliance with monthly average WQBELS. GLI Q&A-2, p. 28.

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(\*3) EPA's official position is that "[q]uantification of measurements below the [quantification level]. . . are [sic] not acceptable. . . ." 61 Fed. Reg. 3412 (col. 1) (Jan. 31, 1996).

Response to: CTR-030-009

See response to CTR-005-009.

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Comment ID: CTR-033-003a

Comment Author: San Bernardino Muncpl Wtr Dept

Document Type: Water District  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-28 Detection Limits  
References: Letter CTR-033 incorporates by reference letter CTR-020  
Attachments? Y  
CROSS REFERENCES E-01n

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Comment: Experiments to determine whether a chemical is carcinogenic are performed (on animals) with high concentrations to produce statistically significant results within the time frame of the experiment. The numbers are then extrapolated to determine an estimated "safe" concentration for human populations. All of the factors in the extrapolation process use conservative assumptions (one in a million risk, bioaccumulation potential, carcinogenic potential, etc.) which builds in and multiplies safety factors. For 39 of the constituents in the CTR, the extrapolated criteria levels are below current levels of detection.

The EPA recognizes this as the proposed rule states: "EPA is aware that the criteria proposed today for some of the priority toxic pollutants are at concentrations less than EPA's current analytical detection limits. Analytical detection limits have never been an acceptable basis for setting water quality criteria since they are not related to actual environmental impacts. The environmental impacts of a pollutant are based on a scientific determination, not a measuring technique that is subject to change. Setting the criteria at levels that reflect adequate protection tends to be a forcing mechanism to improve analytical detection methods. See 1985 Guidelines p. 21. As the methods improve, limits closer to the actual criteria necessary to protect aquatic life and human health become measurable. The Agency does not believe it is appropriate to propose or promulgate criteria that are not sufficiently protective." The rule goes on to add, "the use of detection limits are appropriate for determining compliance with National Pollutant Discharge Elimination System (NPDES) permit limits."

Since the criteria are established on high dosage results that cannot be substantiated at low levels due to statistical significance and inability to see beyond detection limits, the values are predictions. Questions that come to mind are, what would this procedure determine for fat-soluble vitamins A, D and K? In high doses, these vitamins are harmful, though in low dosages, valuable. For constituents below detection, these determinations cannot be scientifically verified by analyses, only mathematically generated based on worst case assumptions. Although caution is warranted when establishing criteria, future unforeseen levels and effects cannot be predicted.

While the EPA believes that compliance determinations are based on detection limits, to assume no cost in the economic analysis for values that are below detection is not a valid assumption. As noted above, the detection limits will be forced to lower levels, and therefore become moving compliance targets without additional economic review should detection's begin to occur.

In summary, the detection levels should serve as the criteria with a "<" designator. The criteria for the affected constituents should be reviewed on a regular basis to reflect current approved analytical techniques, with lower levels promulgated after appropriate economic evaluations.

Response to: CTR-033-003a

See response to CTR-005-009.

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Comment ID: CTR-034-010a  
Comment Author: SCAP  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-28 Detection Limits  
References: Letter CTR-034 incorporates by reference letter CTR-035  
Attachments? N  
CROSS REFERENCES C-21

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Comment: \* SCAP recommends that EPA defer adoption of criteria contained in the draft CTR which are typically below detection limits. While we understand EPA's rationale for setting criteria that may not be detectable based on EPA's determination of the criteria needed to adequately protect aquatic life and human health, we believe that EPA has not fulfilled its duties under the Clean Water Act, Unfunded Mandates Act, and E.O. 12866. In accordance with federal water quality standards regulations, EPA is required to review water quality data and information on discharges to specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use (see 40 CFR section 131.11). Thus, if the pollutant has not been detected, there is no basis for determining whether the chemical is adversely affecting water quality or the attainment of designated uses.

Further, EPA cannot make an accurate determination of the costs and benefits of promulgating CTR criteria for those criteria that are below detection levels. It is quite likely that detection limits for some substances will improve in the near future, and dischargers previously projecting full attainment will no longer be able to comply. For instance, a SCAP member agency was issued an NPDES permit in the early 1990s containing effluent limits for a number of toxic pollutants. In this agency's case, lindane was not being detected at the time of permit issuance (and the detection level was higher than the permit limit). Yet, in the following years, the detection level dropped and this agency began to experience exceedences of the permit limit. Lindane cannot be readily controlled at the source by normal industrial waste source control methods because it is in widespread use by consumers. Therefore, the only reliable option for the POTW to come into compliance may be to add end-of-pipe treatment, a very expensive proposition. This scenario is likely to happen again with many of the criteria being proposed in the CTR. The potential compliance costs could be high, yet the Economic Analysis for the draft CTR could not estimate such costs. For all of the above reasons, EPA should defer adoption of these criteria until they can be detected and EPA can more fully determine the potential economic impacts of promulgation of the CTR. Instead, we recommend that a watershed approach be used to address these pollutants (see below).

Response to: CTR-034-010a

See response to CTR-005-009.

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Comment ID: CTR-035-005  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA

Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-28 Detection Limits  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: EPA should defer adoption of criteria for any pollutant where the method detection limit exceeds the objective and there are insufficient reliable data to determine if the pollutant could reasonably be expected to interfere with attainment of designated uses. We believe that because of the inability to detect these substances and the lack of monitoring information indicating water quality use impairment, that EPA has not fulfilled its obligations under the Clean Water Act to conduct a water body-specific analysis of the need to promulgate criteria, nor has EPA fulfilled its obligations under the Unfunded Mandates Act and Executive Order 12866 to analyze the costs and benefits of proposed criteria that cannot be detected or for which insufficient monitoring data are available. We believe that the costs to comply with criteria for organic pollutants that are currently below detection levels could amount to as much as \$630 million per year for the POTW sector.

Response to: CTR-035-005

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Comment ID: CTR-035-012b  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-28 Detection Limits  
References:  
Attachments? N  
CROSS REFERENCES C-21

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Comment: 1. Comments on Proposed Rule A. General Comments p. 42166-67 --Legal Basis

EPA argues that:

EPA does not believe that it is necessary to support the criteria proposed today on a pollutant-specific, water body-by-water-body basis. For EPA to undertake an effort to conduct research and studies of each stream segment or water body across the State of California to demonstrate that for each toxic pollutant for which EPA has issued CWA section 304(a) criteria guidance there is a 'discharge or presence' of that pollutant which could reasonably 'be expected to interfere with' the designated use would impose an enormous administrative burden and would be contrary to the statutory directive for swift action manifested by the 1987 addition of section 303(c)(2)(B) to the CWA.

Contrary to EPA's argument, we believe that the requirement in Section 303 of the CWA that States adopt water quality standards where there is a discharge or presence of toxic pollutants in the affected waters which could reasonably be expected to interfere with designated uses, applies to EPA. EPA's claim that such a review would impose an "enormous administrative burden" is not compelling, since States, in their adoption of water quality standards, must perform this pollutant specific review of each stream

segment under the express terms of Section 303(c)(2)(B). EPA's own regulations require that, in promulgating water quality standards for a State, EPA is subject to "the same policies, procedures, analyses, and public participation requirements established for States in these regulations" (40 CFR section 131.22). The regulations require States to "review water quality data and information on discharges to specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use"(40 CFR section 131.11)(emphasis added). Thus, the regulations regarding the adoption of water quality standards do not suggest that States adopt uniform water quality standards for every water body merely because there may be a large amount of work required to determine the appropriate water quality standards for each water body. We especially believe this issue to be pertinent to pollutants for which the proposed CTR criteria are below detection levels. We therefore recommend that EPA defer the adoption of criteria for constituents which are below detection limits until such time as data are available demonstrating that particular toxic pollutants are being discharged to specific water bodies at levels to warrant concern. The pollutants in this category include the following: aldrin, alpha-BHC, beta-BHC, chlordane, 4,4'-DDD, 4,4'-DDT, 4,4'-DDE, dieldrin, 2,3,7,8-TCDD (dioxin), endosulfan I, endosulfan II, endrin, endrin aldehyde, heptachlor, heptachlor epoxide, toxaphene, PCB-1016, PCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, PCB-1260, hexachlorobenzene, n-nitrosodi-n-propylamine, pentachlorophenol, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoroanthene, benzo(k)fluoroanthene, chaysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. EPA, upon determining that promulgation of a 303(c)(2)(B) criterion is necessary, should promulgate the criterion on a water body-specific basis. Also, EPA would need to conduct an economic impact analysis at that time. Finally, as with the CTR, EPA must pursue adoption of these criteria through a rulemaking process, allowing opportunities for public review and comment in accordance with the Clean Water Act and Administrative Procedures Act.

Response to: CTR-035-012b

See response to CTR-005-009.

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Comment ID: CTR-036-006

Comment Author: County of Orange

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-28 Detection Limits

References: Letter CTR-036 incorporates by reference letters CTR-013, CTR-018, CTR-031, CTR-034 and CTR-040

Attachments? N

CROSS REFERENCES

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Comment: Appropriateness of the Technical Criteria in the CTR

The proposed rule includes a number of technical elements that are of concern.

We are concerned that the proposed rule contains criteria that have concentrations lower than current acceptable laboratory detection limits. We recommend that no criteria be adopted which are below the

detection limits and that no criteria be adopted when insufficient reliable data exists to determine that the pollutant could reasonably be expected to interfere with designated uses.

Response to: CTR-036-006

See response to CTR-005-009.

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Comment ID: CTR-037-006

Comment Author: Hampton Roads Sanitation Dist.

Document Type: Sewer Authority

State of Origin: VA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-28 Detection Limits

References:

Attachments? N

CROSS REFERENCES

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Comment: 6. EPA states that analytical detection limits are appropriate for determining compliance with NPDES permit limits, which directly conflicts with the Agency's most recent guidance which recommends that MLs be used to determine compliance. This statement completely ignores the issues of analytical variability and uncertainty in data at the MDL and between the MDL and the ML, even though all parties are in consensus that values of high uncertainty should not be used to make compliance decisions. This may be a typographical error, but it needs to be addressed. Furthermore, EPA must consider the analytical limitations of currently approved procedures when adopting criteria, Compliance with criteria can not be determined readily if sufficiently-sensitive approved procedures are not available.

Response to: CTR-037-006

See response to CTR-005-009.

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Comment ID: CTR-038-009a

Comment Author: Sonoma County Water Agency

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-28 Detection Limits

References:

Attachments? Y

CROSS REFERENCES E-01n

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Comment: 8. EPA should not adopt criteria for any pollutant where the method detection limit exceeds the objective and there is insufficient detectable, reliable data to determine if the pollutant could

reasonably be expected to interfere with designated uses. The proposed rule includes criteria for a number of constituents where there is insufficient data to determine whether the discharge of such pollutants could reasonably be expected to interfere with the designated uses. EPA has chosen to promulgate criteria for these constituents even though section 303 (c)(2)(B) of the Clean Water Act requires States to adopt numeric criteria only for constituents "...the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." Clearly, this "play-it-safe" approach goes beyond the requirements of the Clean Water Act and is therefore unnecessary. By taking this approach, however, EPA is unable to fulfill its duty (under Presidential Order 12866, the Unfunded Mandates Reform Act, and the Regulatory Flexibility Act) to assess the costs, benefits, and impacts of the rule on local government and small entities. While this may be the conservative approach for EPA, it places dischargers throughout the State at risk. As analytical detection limits improve, dischargers may find they are unable to achieve the criteria without costly end-of-pipe controls. But, by then, it will be too late for EPA to evaluate the costs and benefits of the criteria and alternative criteria. For these reasons, EPA must not adopt criteria for those constituents. If EPA does adopt criteria for those constituents, EPA must evaluate the costs and benefits of the criteria, as well as alternative criteria, using worst case assumptions (i.e., assume that discharge levels and ambient levels are at the detection limits). With respect to the District's discharge and Schell Slough and Second Napa Slough, the criteria in this category include, but are not necessarily limited to, the following : benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, aldrin, 4,4'-DDD, 4,4'-DDE, dieldrin, endosulfan I, endosulfan II, endosulfan sulfate, heptachlor, heptachlor epoxide, toxaphene, PCB-1016, OCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, PCB-1260, and hexachlorobenzene (see Table 3).

Response to: CTR-038-009a

See response to CTR-005-009.

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Comment ID: CTR-040-017

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-28 Detection Limits

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

**CROSS REFERENCES**

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Comment: IV. Recommendation: Do not adopt criteria for any pollutant where the method detection limit exceeds the water quality objective and for which there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses.

\* The proposed Rule includes criteria for a number of constituents where there is insufficient data to determine whether the discharge of such pollutants could reasonably be expected to interfere with the designated uses. EPA has chosen to promulgate criteria for these constituents even though section 303(c)(2)(B) of the CWA requires states to adopt numeric criteria only for constituents "...the discharge or presence of which in the affected waters could reasonably be expected to interfere with those

designated uses adopted by the State, as necessary to support such designated uses." Clearly, this "play-it-safe" approach goes beyond the requirements of the CWA and is therefore unnecessary.

\* By taking this approach, however, EPA is unable to fulfill its duty under Presidential Executive Order 12866, the Unfunded Mandates Reform Act, and the Regulatory Flexibility Act to assess the costs, benefits, and impacts of the Rule on local governments and other entities.

\* While this may be the "safe" approach for EPA, it places dischargers throughout the State at risk. As analytical detection limits improve, dischargers may find they are unable to achieve the criteria without costly end-of-pipe controls. But, by then, it will be too late for EPA to evaluate the costs and benefits of the criteria and alternative criteria.

\* For these reasons, EPA must set aside the "play-it-safe" approach and not adopt criteria for those constituents.

\* If EPA does not do this, it must evaluate the costs and benefits of the criteria for these constituents, as well as alternative criteria, using, worst case assumptions (discharge levels and ambient levels are at the detection limits).

Response to: CTR-040-017

See response to CTR-005-009.

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Comment ID: CTR-041-008a

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-28 Detection Limits

References:

Attachments? N

CROSS REFERENCES E-01n

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Comment: 3. Recommend Against Adopting Criteria with Insufficient Detectable Data

The District strongly recommends that the EPA not adopt criteria where the method detection limit exceeds the objective and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses. The proposed rule includes criteria for a number of constituents where there is insufficient data to determine whether the discharge of such pollutants could reasonably be expected to interfere with the designated uses. EPA has chosen to promulgate criteria for these constituents even though section 303 c(2)(B) of the Clean Water Act requires States to adopt numeric criteria only for constituents "...the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." EPA has chosen a "safe approach" which clearly goes beyond the Clean Water Act and is clearly unnecessary. This approach does not allow EPA to fulfill its duty (under Presidential Order 12866, the Unfunded Mandates Reform Act and the Regulatory Flexibility Act) to assess the costs, benefits, and impacts of the rule on local government and small

entities. While this may be the safe approach for EPA, it places dischargers throughout the State at risk.

As analytical detection limits improve, dischargers may find they are unable to achieve the criteria without costly end-of-pipe controls. But, by then, it will be too late for EPA to evaluate the costs and benefits of the criteria and alternative criteria. For these reasons, EPA should not adopt criteria for those constituents. If EPA does adopt these criteria, EPA should, prior to that, evaluate the costs and benefits of the criteria, as well as alternative criteria, using worst case assumptions (i.e., assume that discharge and ambient levels are at the detection limits). The criteria in this category include the following: Aldrin, Alpha-BHC, Beta-BHC, Chlordane, 4,4'-DDD, 4,4'-DDT, 4,4'-DDE, Dieldrin, Endosulfan I, Endosulfan II, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, Toxaphene, PCB- 1016, PCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, PCB-1260, Hexachlorobenzene, N-Nitrosodipropylamine, Pentachlorophenol, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, and Indeno(1,2,3-cd)pyrene.

Response to: CTR-041-008a

See response to CTR-005-009.

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Comment ID: CTR-042-003  
Comment Author: Cal. Dept. of Transportation  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-28 Detection Limits  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: 3. The CTR fails to adequately address non-detected pollutants.

In numerous instances, the CTR adopts water quality criteria for pollutants that exceed the method detection limit. In these cases, insufficient data exists to determine if these pollutants will interfere with designated beneficial uses. Without such data, EPA is unable to demonstrate that there is a "discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State" that would require the adoption of water quality standards to support such designated uses. See CWA section 303(c)(2)(B).

Furthermore, without such data, dischargers are unable to determine the controls necessary to meet the CTR criteria. As detection limits are lowered over time through the implementation of new laboratory techniques, dischargers may find that they are in violation of the criteria, are subject to enforcement actions and citizen suits, and must install costly end-of-pipe treatment technologies. This scenario can be avoided if EPA delays the adoption of all criteria that exceed currently available method detection limits.

Request: Caltrans requests that EPA delay the adoption of all CTR water quality criteria that exceed currently available method detection limits until such time that there exists sufficient, detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated beneficial uses.

Response to: CTR-042-003

See response to CTR-005-009.

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Comment ID: CTR-043-008  
Comment Author: City of Vacaville  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-28 Detection Limits  
References:  
Attachments? Y  
**CROSS REFERENCES**

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Comment: 8. EPA should not adopt criteria for any pollutant where the method detection limit exceeds the objective and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses. The proposed rule includes criteria for a number of constituents where there is insufficient data to determine whether the discharge of such pollutants could reasonably be expected to interfere with the designated uses. EPA has chosen to promulgate criteria for these constituents even though section 303 (c)(2)(B) of the Clean Water Act requires States to adopt numeric criteria only for constituents "...the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." Clearly, this approach goes beyond the requirements of the Clean Water Act and is therefore unnecessary. Additionally, this approach does not allow EPA to fulfill its duty (under Presidential Order 12866, the Unfunded Mandates Reform Act, and the Regulatory Flexibility Act) to assess the costs, benefits, and impacts of the rule on local government and small entities. While this may be the conservative approach for EPA, it places dischargers throughout the State at risk. As analytical detection limits improve, dischargers may find they are unable to achieve the criteria without costly end-of-pipe controls. But, by then, it will be too late for EPA to evaluate the costs and benefits of the criteria and consider alternative criteria. For these reasons, EPA should not adopt criteria for those constituents. If EPA does adopt criteria for those constituents, EPA should evaluate the costs and benefits of the criteria, as well as alternative criteria, using worst case assumptions (i.e., assume that discharge levels and ambient levels are at the detection limits).

Response to: CTR-043-008

See response to CTR-005-009.

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Comment ID: CTR-044-009a  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-28 Detection Limits  
References:

Attachments? Y  
CROSS REFERENCES E-01c  
R  
S

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Comment: We have reviewed the proposed CTR and offer the following comments:

8. EPA should not adopt criteria for any pollutant where the method detection limit exceeds the objective and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses. The proposed rule includes criteria for a number of constituents where there is insufficient data to determine whether the discharge of such pollutants could reasonably be expected to interfere with the designated uses. EPA has chosen to promulgate criteria for these constituents even though section 303 (c)(2)(B) of the Clean Water Act requires States to adopt numeric criteria only for constituents "... the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." Clearly, this approach goes beyond the requirements of the Clean Water Act and is therefore unnecessary. Additionally, this approach does not allow EPA to fulfill its duty (under Presidential Order 12866, the Unfunded Mandates Reform Act, and the Regulatory Flexibility Act) to assess the costs, benefits, and impacts of the rule on local government and small entities. While this may be the conservative approach for EPA, it places dischargers throughout the State at risk. As analytical detection limits improve, dischargers may find they are unable to achieve the criteria without costly end-of-pipe controls. But, by then, it will be too late for EPA to evaluate the costs and benefits of the criteria-and-consider alternative criteria. For these reasons, EPA should not adopt criteria for those constituents. If EPA does adopt criteria for those constituents, EPA should evaluate the costs and benefits of toxic criteria, as well as alternative criteria, using worst case assumptions (i.e., assume that discharge levels and ambient levels are at the detection limits).

Response to: CTR-044-009a

See response to CTR-005-009.

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Comment ID: CTR-052-018  
Comment Author: East Bay Dischargers Authority  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-28 Detection Limits  
References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054  
Attachments? Y  
CROSS REFERENCES

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Comment: C. RECOMMENDATIONS FOR MODIFICATIONS TO THE CTR AND EA

Do not adopt criteria for any pollutant where the method detection limit exceeds the objective. As noted in the second paragraph of B.1, above, attainability issues will likely occur in the future as technology develops lower detection limits. There is no reason to adopt criteria for toxicants than cannot be properly measured. Once proper MDLs exist, each item can be reevaluated and the CTR (or the State Plans) can

be amended. Regulatory agencies must first determine if any of these toxicants are present in the water body to determine if an objective is warranted. The toxicants that should be removed from the CTR include the following: TCDD and equivalents, Hexachlorobenzene, Aldrin, Chlordane, 4,4'-DDT, 4,4'-DDE, 4,4'-DDD, Dieldrin, Endrin, Heptachlor Epoxide, Polychlorinated biphenyls (PCBs), and Toxaphene. There may be other toxicants where MDL is an issue for other POTWS.

Response to: CTR-052-018

See response to CTR-005-009.

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Comment ID: CTR-054-009

Comment Author: Bay Area Dischargers Assoc.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-28 Detection Limits

References:

Attachments? Y

CROSS REFERENCES

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Comment: EPA should not adopt criteria for any pollutant where the method detection limit exceeds the objective and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses. The proposed rule includes criteria for a number of constituents where there is insufficient data to determine whether the discharge of such pollutants could reasonably be expected to interfere with the designated uses. EPA has chosen to promulgate criteria for these constituents even though section 303 (c)(2)(B) of the Clean Water Act requires States to adopt numeric criteria only for constituents "...the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." Clearly, this "play-it-safe" approach goes beyond the requirements of the Clean Water Act and is therefore unnecessary. Moreover, this approach does not allow EPA to fulfill its duty (under Presidential Order 12866, the Unfunded Mandates Reform Act, and the Regulatory Flexibility Act) to assess the costs, benefits, and impacts of the rule on local government and small entities. While this may be the safe approach for EPA, it places dischargers throughout the State at risk. As analytical detection limits improve, dischargers may find they are unable to achieve the criteria without costly end-of-pipe controls. But, by then, it will be too late for EPA to evaluate the costs and benefits of the criteria and alternative criteria. For these reasons, EPA should not adopt criteria for those constituents. If EPA does adopt these criteria, EPA should, prior to that, evaluate the costs and benefits of the criteria, as well as alternative criteria, using worst case assumptions (i.e., assume that discharge levels and ambient levels are at the detection limits). The criteria in this category include the following: Aldrin, Alpha-BHC, Beta-BHC, Chlordane, 4,4'-DDD, 4,4'-DDT, 4,4'-DDE, Dieldrin, Endosulfan I, Endosulfan II, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, Toxaphene, PCB-1016, PCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, PCB-1260, TCDD equivalents Hexachlorobenzene, N-Nitroso-di-propylamine, Pentachlorophenol, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, and Indeno(1,2,3-cd)pyrene (see Attachment 2).

Response to: CTR-054-009

See response to CTR-005-009.

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Comment ID: CTR-056-014

Comment Author: East Bay Municipal Util. Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: C-28 Detection Limits

References: Letter CTR-056 incorporates by reference letter CTR-054

Attachments? N

**CROSS REFERENCES**

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Comment: Third, regarding the criteria being proposed for adoption in the draft CTR, EBMUD recommends that EPA should:

\* NOT adopt criteria for any pollutant where the method detection limits (MDLs) for EPA required analytical procedures defined in 40CFR 136 exceeds the objective. In these cases there is insufficient detectable data to reliably determine if the pollutant of concern could reasonably be expected to interfere with attainment of designated uses. Furthermore, there is no assurance that technological advancements or improved methodology would permit MDLs to be further reduced before interim permit limits became final.

Response to: CTR-056-014

See response to CTR-005-009.

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Comment ID: CTR-057-004

Comment Author: City of Los Angeles

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-28 Detection Limits

References:

Attachments? N

**CROSS REFERENCES**

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Comment: Analytical Detection Limits

At the time the ISWP was undergoing public review, the City's analytical detection capabilities for trace organics were also being improved. For example, the detection limit for lindane (γ-hexachlorocyclohexane) was lowered from 20 ng/L in 1989 to the present detection level of 4 ng/L. At the detection limit of 20 ng/L, the practical quantitation limit (PQL) was 100 ng/L, and lindane had not yet been detected in Tillman effluent. After the new NPDES permit was issued in 1991, the effluent limit for lindane was set at 19 ng/L. With the improvement in the lindane detection limit to 4 ng/L and

the PQL at 20 ng/L, the Tillman plant began to detect lindane consistently at levels of about 30 ng/L for the past 6 years. The plant thus unknowingly inherited a lindane compliance problem. Since the ISWP did not contain a provision for this situation to be addressed, the plant began to experience chronic lindane violations that continue to this day. As described previously in our comments on the EA, the probable cost for treating lindane was estimated to be approximately \$40 million per year.

This unanticipated problem, driven by improvements made in analytical methods, should likewise be anticipated in the CTR for criteria that are proposed to be set below PQLs. One possible approach would be to designate these criteria as "target numeric criteria" that would serve as placeholders until such time that improvements to detection levels (which can always be assumed to be achievable) are realized. Practical criteria could be established in the interim based on current method detection levels, which would be adjusted downward to eventually reach the target criteria levels.

Another strong justification for setting appropriate detection limit-specific criteria is based on contingency economic considerations. When "hard" criteria are set below PQLs, no compliance problem at the level between the criteria and the PQLs can be identified and taken into consideration by the EA. The EPA's economic analysis is thus inherently flawed from this point of view, because detection limits effectively represent a level of ignorance (or lack of data) that the EA does not now address.

Response to: CTR-057-004

See response to CTR-005-009.

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Comment ID: CTR-059-006a

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-28 Detection Limits

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES E-01c

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Comment: Due to the time constraints of the comment period, we have focused our review and comments primarily on those criteria that we anticipate may cause compliance issues for one or more of the Sanitation Districts' WRPs (see below). Based on our initial review of the proposed rule, the Sanitation Districts recommend that adoption of some of the criteria be deferred. As explained in the attached comments, we believe that there are significant scientific issues regarding the human health criteria for several trihalomethanes that call into question the accuracy and appropriateness of the proposed criteria. In addition, we recommend that EPA defer adoption of those criteria that are below detection limits and that have not been demonstrated to be adversely affecting water quality or the attainment of designated uses on a water body-specific basis in California. In addition, we recommend that EPA not adopt criteria for effluent dependent waters, unless they have been adjusted to reflect the characteristics of this type of water body.

Criteria Below Detection Limits

We believe that there are fundamental problems with EPA's decision to adopt criteria that are below detection limits. This issue relates to EPA's statutory and regulatory obligations in establishing water quality criteria; namely, that EPA is subject to the same policies, procedures, analyses, and public participation requirements as States pursuant to 40 CFR section 131. These regulations require States to "review water quality data and information on discharges to specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use." (40 CFR section 131.11) For criteria where the method detection limit exceeds the objective, there are inadequate data to determine if the pollutant could reasonably be expected to interfere with attainment of designated uses. We believe that because of the inability to detect these substances and the lack of monitoring information indicating water quality use impairment EPA has not been able to fulfill its obligations to conduct a water body-specific analysis of the need to promulgate criteria.(\*1)

(\*1)U.S. Environmental Protection Agency, Economic Analysis of the Proposed California Water Quality Toxics Rule, Office of Water (EPA-820-B-96-001, July 1997), p. 8-18.

Second, EPA has not fulfilled its obligations under the Unfunded Mandates Reform Act and Executive Order 12866 to analyze the costs and benefits of promulgating proposed criteria which cannot be detected or for which insufficient monitoring data are available.

Given these deficiencies, we recommend that EPA defer the adoption of criteria for constituents which are below detection limits until such time as EPA has demonstrated that the levels of toxic pollutants being discharged are at a level to warrant concern. As an alternative, EPA could defer to the State for promulgation of criteria for such compounds on a water body-specific basis as part of the State's continuous water quality planning process.

Response to: CTR-059-006a

See response to CTR-005-009.

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Comment ID: CTR-060-010  
Comment Author: San Diego Gas and Electric  
Document Type: Electric Utility  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-28 Detection Limits  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: PROVISIONS SDG&E DOES NOT SUPPORT

As described in the following comments SDG&E does not support the following provisions:

EPA needs to clarify its quantification discussion

The preamble to the rule (see 62 Fed. Reg. at 42,183, Col. 3) states that "EPA does believe, however, that the use of analytical detection limits are appropriate for determining compliance with National Pollutant Discharge Elimination System (NPDES) permit limits." SDG&E believes that the use of detection limits for this purpose is inappropriate. First, analytical results that are above the detection limit, but less than the quantitation limit only establish the presence of a analyte, not the actual concentration of the pollutant in the sample. Therefore, results below the quantitation limit do not provide a reliable value for determining compliance with a permit limit. Second, the document ("Strategy for the Regulation of Discharges of PHDDs and PHDFs from Pulp and Paper Mills to Waters of the U.S.") (the "Dioxin Strategy") that is referenced as the basis for using the detection limit for compliance determinations is from May 21, 1990. The Agency has expressed significant changes in its position since that time. For instance, EPA's guidance document dated March 20, 1996 ("Questions and Answers on the Great Lakes Water Quality Guidance-Set 2"; p. 28.) allows states to specify that analytical results below the level of quantification may be deemed to be in compliance with the established water quality-based effluent limitation. Additionally, a U.S. Court of Appeals for the District of Columbia Circuit ruling in 1997 held that:

A standard with which compliance cannot be assessed - and it is agreed that compliance with an effluent limitation set below the level of quantification simply cannot be assessed - is no standard at all for purposes of due process.

American Iron and Steel Institute v. U.S.EPA, 115 F.3d 979, 994 (1997) (AISI).

Rather than reference the Dioxin Strategy, EPA should reference its "Questions and Answers on the Great Lakes Water Quality Guidance-Set 2", dated March 20, 1996.

Response to: CTR-060-010

See response to CTR-005-009.

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Comment ID: CTR-066-015b  
Comment Author: Delta Diablo Sanitation Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-28 Detection Limits  
References:  
Attachments? N  
CROSS REFERENCES E-01n

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Comment: The areas with which we find concerns and the requested changes include the following:

A further problem with the analysis relates to the establishment of criteria that are below analytical detection. Our District finds 34 separate criteria that fall into this category. Lacking this credible data, it was not possible to conduct cost-benefit analyses or determine that any set of control measures would or could lead to compliance. This fundamental inability to utilize established rulemaking procedures mandates further work prior to the promulgation of the criteria.

Response to: CTR-066-015b

See response to CTR-005-009.

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Comment ID: CTR-067-003  
Comment Author: Ojai Valley Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-28 Detection Limits  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: \* OVSD recommends that EPA defer adoption of criteria contained in the draft CTR, which are typically below achievable detection limits. OVSD understands that EPA's rationale for setting criteria below achievable limits is based on EPA's determination of the criteria needed to adequately protect aquatic life and human health. However, if a pollutant has never been detected in OVSD's treatment plant receiving water, there is no basis for determining whether the chemical is adversely affecting water quality or the attainment of designated uses.

Response to: CTR-067-003

See response to CTR-005-009.

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Comment ID: CTR-082-009b  
Comment Author: City of Burbank  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-28 Detection Limits  
References:  
Attachments? N  
CROSS REFERENCES E-01n

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Comment: The subject rule has a significant impact on our facility discharge and the citizens of the City. We therefore present the following comments for your consideration to re-open the comment period for this rule in order to facilitate a more complete review by public and in particular by those in the POTW community:

\* A further problem with the analysis relates to the establishment of criteria that are below analytical detection. Lacking credible data, it was not possible to conduct cost-benefit analyses or determine that any set of control measures would or could lead to compliance. This fundamental inability to utilize established rulemaking procedures mandates further work prior to the promulgation of the criteria.

Response to: CTR-082-009b

See response to CTR-005-009.

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Comment ID: CTR-085-018b  
Comment Author: Camarillo Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-28 Detection Limits  
References:  
Attachments? N  
CROSS REFERENCES E-01n

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Comment: The District supports the following positions of CASA and SCAP where changes need to be made in the proposed California Toxics Rule:

\* A further problem with the economic analysis relates to the establishment of criteria that are below analytical detection. Lacking credible data, it was not possible to conduct cost analysis or determine that any set of control measures would or could lead to compliance. This fundamental inability to utilize established rule making procedures mandates further work to the promulgation of the criteria.

Response to: CTR-085-018b

See response to CTR-005-009.

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Comment ID: CTR-089-003  
Comment Author: Las Virgenes Mncpl Water Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: C-28 Detection Limits  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: While the draft regulations demonstrate clear progress on these and other issues, there remain some unresolved problems that could compromise our ability to serve our customers. We offer these comments in the hope of minimizing those potential impacts.

Analytical Detection Limits

Criteria for nine pollutants(\*1) appear to have been set at levels lower than we can detect in either our laboratory or by commercial laboratories in our region, including those used by the Los Angeles

Regional Water Quality Control Board (RWQCB). While we consistently do not find these pollutants in our discharge, our detection capabilities are limited by the methods available to us for regular monitoring. Some of the proposed limits are so low that our equipment and analytical methods are incapable of detecting them, whether they are present or not. Thus, regardless of the quality of our discharge, there is no practical way to demonstrate compliance with the proposed limits for these nine pollutants.

The Los Angeles RWQCB, which must enforce these limits, is aware of this shortcoming, which applies to both the CTR and the closely-related National Toxics Rule (NTR). Recognizing the "catch-22" inherent to the proposed criteria, they have proposed an alternative, administrative method of compliance. While this alternative will allow us to comply with the CTR in a purely administrative sense, the fact remains that we cannot actually demonstrate that our discharge meets the proposed criteria for these nine pollutants. This makes our district, the RWQCB and even the USEPA vulnerable to third-party lawsuits and creates a potential for negative public perception and bad press. As recent experience has shown(\*2), advocates for public health and the environment are notoriously unforgiving of "administrative compliance". It is also unclear to us whether the administrative remedy proposed by the RWQCB is consistent with the State Implementation Policy for the CTR. This is something we could not determine in the 30 days provided to review the CTR.

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(\*1) Cadmium, copper, lead, mercury, selenium, silver, chloroform, chlorobromo-methane and dichlorobromomethane

(\*2) During the public debates over the reauthorization of the Safe drinking Water Act, the Natural Resources Defense Council aired a number of television and press stories on the safety of public drinking water supplies, based in large part on selective interpretations of NPDES permit conditions and violations. The adoption of pollutant limits that cannot be verified exposes a vary large portion of the water and wastewater industry to allegations of health and environmental risks that can neither be proven or denied.

Response to: CTR-089-003

See response to CTR-005-009.

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Comment ID: CTR-090-006

Comment Author: C&C of SF, Public Util. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-28 Detection Limits

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

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Comment: Major Concerns About the Proposed Criteria and Rule

1. The Proposal is Based on Poor Data and Will Not Result in Better Water Quality for California. We

stated that our own attainability analysis and that of BADA show that San Francisco,) will be impacted by this rule. Unfortunately, due to the short time for review, the poor quality of data and basis for statements and assumptions in the proposal and the problem with detection limits we cannot specifically say what will be the cost to Sari Francisco. One analysis tell us it could be \$2.3 million per year annualized costs and another analysis tells us it could be much more. We strongly recommend major revision to the proposal and the economic analysis before final promulgation for the following reasons:

For many of the pollutants the detection limit is above the proposed criteria and there is insufficient water quality data to determine if the constituent could reasonably be expected to interfere with designated uses;

Response to: CTR-090-006

See response to CTR-005-009.

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Comment ID: CTR-090-011  
Comment Author: C&C of SF, Public Util. Commis.  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-28 Detection Limits  
References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054  
Attachments? Y  
CROSS REFERENCES

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Comment: We recommend that EPA:

3. Not adopt criteria for any pollutants where the method detection limit exceeds the objective. Instead these can be trigger points or temporary limits. (see more discussion in attachments)

If these changes cannot be made in the rule, the rule should not be promulgated.

Response to: CTR-090-011

See responses to CTR-004-002 (Category E-01; Cost Analysis) and CTR-034-10b (Category C-21; Legal Concerns).

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Comment ID: CTRH-001-020  
Comment Author: Phil Bobel  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Tri-TAC  
Document Date: 09/17/97  
Subject Matter Code: C-28 Detection Limits  
References:  
Attachments? N

## CROSS REFERENCES

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Comment: The second point I'll make is about the numeric criteria themselves. There's a number of reasons that we will amplify on in the written comments why we don't believe all of those should be finalized as proposed.

And the example I'd like to deal with here is the group that are below the detection level, where you're proposing a criteria that's substantially below the current detection limit. Dioxin is an example; there are others.

It would be easy to say, and we will say, that because of that situation you weren't able to do an analysis -- an economic analysis, an attainable analysis. You weren't able to tell what impact this would actually have in the real world, because all of the standard setting was below where you had data.

And so how could you possibly know whether or not the standard could be achieved, when it would be achieved, or how much it would cost, or if it could be achieved? We believe that to be a pretty fundamental shortcoming of this whole business, when you're in that area below detection limits.

But there's even a more fundamental thing I'd like the EPA to think about for those pollutants. And that is: Just how are we going to proceed? Even if you manage to get your standard finalized as proposed, what would the next step be, where you've got a standard that's below the detection limits where we can take the normal next steps?

So I think we need more creativity in this area as well. It's an area where we're going to have to all put our heads together and say, "How do we approach the set of pollutants where the level of interest -- the levels at which we're interested in the pollutant is so very low?" Maybe there is some fundamentally different approach we need to take here, and maybe now is a good time to stop, brainstorm about it, do some creative thinking.

I don't think the old -- the TMDR translated to permit limits, that's not the future for those kind of pollutants. It ain't going to work. So now would be a good time to slow down, do some rethinking of how to go about proceeding on those.

So with those two points, I'll stop and thank you for your time.

(Five-minute recess in proceedings.)

Response to: CTRH-001-020

See response to CTR-005-009.

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Comment ID: CTRH-001-028  
Comment Author: Michelle Pla  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: S.F. Public Utilities Com  
Document Date: 09/17/97  
Subject Matter Code: C-28 Detection Limits

References:

Attachments? N

**CROSS REFERENCES**

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Comment: I think Phil had mentioned taking a look at the numeric criteria and things regarding the ones below detection limits. I would agree with that comment. And I think we need to again think outside the box about how we can deal with those issues.

Response to: CTRH-001-028

See response to CTR-005-009.

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Comment ID: CTRH-001-038

Comment Author: Robert Reid

Document Type: Public Hearing

State of Origin: CA

Represented Org: CASA

Document Date: 09/17/97

Subject Matter Code: C-28 Detection Limits

References:

Attachments? N

**CROSS REFERENCES**

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Comment: Third point, the basis for adopting a number of the specific criteria, we believe, is inadequate. These criteria fall into several categories. An example of one of these is the establishment of criteria that are below analytic detection limits, mentioned before, as was done for dioxin and a number of other parameters.

Lacking credible data it was not possible to conduct cost-benefit analysis or to determine that any set of control measures would or could lead to compliance. This fundamental inability to utilize established rulemaking procedures mandates further work prior to the establishment of criteria.

Response to: CTRH-001-038

See response to CTR-005-009.

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Comment ID: CTRH-002-003

Comment Author: Chris Compton

Document Type: Public Hearing

State of Origin: CA

Represented Org: County of Orange

Document Date: 09/18/97

Subject Matter Code: C-28 Detection Limits

References:

Attachments? N

**CROSS REFERENCES**

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Comment: Are the criteria appropriate?

We're concerned that the proposed rule contains criteria that have concentrations lower than the current acceptable laboratory detection limits. We recommend that no criteria be adopted which are below the method detection limits and that no criteria be adopted when insufficient reliable data exists to determine that pollutant could reasonably be expected to interfere with designated uses.

Response to: CTRH-002-003

See response to CTR-005-009.

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Subject Matter Code: C-29 Bioaccumulation

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Comment ID: CTR-026-002c  
Comment Author: Cal. Department of Fish & Game  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-29 Bioaccumulation  
References:  
Attachments? N  
CROSS REFERENCES C-17b  
C-27

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Comment: 2. PARTIAL PROTECTION BY THE PROPOSED AQUATIC LIFE CRITERIA  
(FRESHWATER OR SALTWATER)

On page 42168, the proposed rule includes the following language: "EPA's guidelines are designed to derive criteria that protect aquatic communities by protecting most of the species and their uses most of the time." The CTR goes on to state that this approach results in only a "small possibility" of substantial overprotection or underprotection. Obviously, it is underprotection that is of concern to the DFG. The DFG has very serious concerns that criteria are being proposed that protect "most" of the species "most" of the time. We are aware of the protocols that require a minimum of eight specified families be used to develop criteria and that it may be difficult to determine criteria that are one hundred percent protective; however, this does not preclude the real possibility that certain designated uses and aquatic organisms will not be maintained, and or protected, as a result of the proposed criteria. The DFG is also concerned that criteria and protocols developed for specific constituents do not take into account the additive or synergistic effects that contaminant combination may have on aquatic organisms. Another factor that needs to be considered is bioaccumulation, as well as the effect this may have on organisms at higher trophic levels.

As trustee of all the fish and wildlife resources in the State, it is our agency's responsibility to ensure appropriate protection of all fish and wildlife resources, not just "most", and this includes adequate water quality standards. Due to our concerns and the very real possibility of underprotection to aquatic organisms and designated uses, the DFG believes that it may be appropriate to derive the criteria as proposed, and subsequently develop some additional safety factors for inclusion. It is our understanding that this approach was used in the formulation of water quality objectives for protection of aquatic organisms in the California Ocean Plan. In the short term, the safety factor could possibly be realized by the development of a comprehensive biological monitoring program to determine whether the proposed criteria are indeed fully protective.

Response to: CTR-026-002c

The commentor is correct in stating that the values EPA is promulgating the California Toxics Rule for the protection of aquatic life are designed to protect most species most of the time. EPA understands the commentor's concern that this does not ensure protection of every species and that for some specific constituents additivity, synergism, and food web accumulation may not be considered. These limitations are a factor of the state of the science in modeling, aquatic toxicology, and chemistry rather than an

oversight by the Agency. In fact, the Agency's strategic planning and goals for the next five to ten years is to move towards criteria and guidance that address these very issues.

If the State believes there are critical species or designated uses that will not be protected by the proposed values, then a site specific criterion can be derived using the species recalculation procedure and the new criterion adopted.

With regards to the approach, the commentor suggests to increase the conservatism of the values by establishing safety factors, this is within the purview of the State. A State may always adopt a scientifically defensible value more stringent than that established by EPA. EPA has not used safety factors in promulgating these criteria, however, because EPA's methodology for deriving aquatic life criteria already incorporates rigorous data analysis procedures, including an extrapolation procedure, designed to protect a very high percentage of species, and to protect nearly all individuals even in species more sensitive than nearly all other species. This yields criteria that are adequately protective of the aquatic life uses designated by the state. Though they have limitations of their own, EPA is very supportive of States establishing biomonitoring programs. Comprehensive biomonitoring programs provide information about the health of aquatic systems that simply cannot be obtained through toxicity testing and chemistry.

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Comment ID: CTR-029-002f

Comment Author: Center for Marine Conservation

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: C-29 Bioaccumulation

References:

Attachments? N

CROSS REFERENCES C-17a

C-17b

A

C-22

C-27

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Comment: The Center for Marine Conservation (CMC) is a nationwide, nonprofit advocacy group dedicated to the conservation and enhancement of coastal and ocean life and resources. CMC submits these comments on behalf of its 16,000 members in California and over 120,000 members nationwide.

CMC applauds EPA's efforts to bring California into compliance with the Clean Water Act 303(c)(2)(B). Implementing numeric criteria that will protect the beneficial uses of California's waters is of great importance to the health of coastal and marine ecosystems, and so to CMC and its members. The reliance in many areas of the state on narrative criteria threatens the health of most of the state's waters, thereby impacting both human health and the health of the state's economy that relies on clean water.

While CMC strongly supports the swift adoption of an Enclosed Bays and Estuaries Plan and an Inland Surface Waters Plan that contain numeric criteria for toxic pollutants, CMC also is concerned that many of the specific criteria contained in the proposed rule are weaker than those contained in published guidance. CMC also believes that the proposed rule can better protect certain subpopulations from harm

caused by consumption of contaminated fish and shellfish. Finally, CMC is concerned that the economic analysis of the proposed rule over-emphasizes costs and under-reports the many benefits of improving water quality throughout the state. These three points are reviewed below.

#### In Light of Significant Threats to Water Quality, the Proposed Rule Should Contain the Most Stringent Criteria That Are Scientifically Defensible

Many of the criteria in the proposed rule are weaker than criteria in current published guidance. The proposed rule summarily states that the difference between the proposed, weaker criteria and the published guidance documents is "insignificant"(\*4); however, in light of the current contamination problems in California's waters today, any move backwards, particularly when spread out over the state, must be viewed as significant.

Any weakening of the criteria should be subject to close scrutiny and the most rigorous analysis, which the proposed rule itself does not do. Among other things, the criteria in the proposed rule may be underprotective because additive and synergistic effects were not considered; and because the effects on wildlife, which can be particularly significant for bioaccumulative chemicals, were ignored.(\*5) In addition, the proposed rule contains dissolved rather than total recoverable metals criteria, despite the fact that EPA acknowledges that total recoverable metals criteria are "scientifically defensible" and that they are more protective than dissolved metals criteria because they consider "sediment, food-chain effects and other fate-related issues," rather than simply water column impacts.(\*6)

Clean Water Act section 303(c)(2)(B) mandates the development of numeric criteria that will "support such designated uses [that are adopted by the State]." The statistics available on the health of the state's waters indicates that their use already is significantly threatened or impaired by toxics. The strongest criteria supportable by science are necessary to reverse this trend and begin to restore the state's waters.

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(\*4) 62 Fed. Reg. 42159, 42168 (Aug. 5, 1997).

(\*5) Id. at 42168.

(\*6) Id. at 42172.

Response to: CTR-029-002f

Economic Analysis: I can't respond to this, not my bailiwick.

As the commentor states, the specific numbers proposed in the rule are not necessarily the same as those in existing criteria documents. The Agency disagrees with the commentor's suggestion that because they are different they are less protective. The Agency believes the values proposed in the rule are sufficiently stringent to protect the designated uses of the waters of California. The proposed values meet the aquatic life criteria derivation requirements and have undergone Agency review and public comment.

EPA understands the commentor's concern that this does not ensure protection of every species and that for some specific constituents additivity, synergism, and bioaccumulation may not be considered. These limitations are a factor of the state of the science in modeling, aquatic toxicology, and chemistry rather than an oversight by the Agency. In fact, the Agency's strategic planning and goals for the next five to ten years is to move towards criteria and guidance that address these very issues.

The metals criteria proposed in the rule are for the dissolved concentration rather than the total recoverable concentration. This is consistent with Agency policy and scientific investigations that the dissolved form of metals is that which most closely reflects the bioavailable fraction of metals in the water column. From modeling and research that has been conducted it is understood that if the dissolved criterion is met in the water column then there should not be metal toxicity in the sediment because the sediment interstitial water cannot contain more metal than the overlying water column (Ankley et al., 1996). This does not preclude small amounts of bioaccumulation of metal but to date we have not been able to demonstrate that the bioaccumulation translates into any toxic effect on higher level consumers (Lee et al., 1998; Hare et al, 1994; Hansen et al., 1996). In other words, the data so far indicates that increased body burden does not translate into increased toxicity.

The dissolved concentration must be translated into a permit limitation which is based on total recoverable. This ensures that acceptable total mass loadings are not exceeded and to ensure that the potential transformation of pollutants in effluents upon entering and mixing with the receiving water are accounted for.. In the very near future, the Agency will be publishing sediment guidelines for metals. These guidelines will compliment the water column values to ensure metals are holistically assessed and addressed.

Ankley, G. T., D. M. Di Toro, et al. (1996). "Technical basis and proposal for deriving sediment quality criteria for metals." *Environ. Tox. Chem.* 15(12): 2056-2066.

Hansen, D.J., J.D. Mahony, W.J. Berry, S. Benyi, J. Corbin, S. Pratt and M.B. Able. 1996. Chronic effect of cadmium in sediments on colonization by benthic marine organisms: An evaluation of the role of interstitial cadmium and acid volatile sulfide in biological availability. *Environ. Toxicol. Chem* 15:2136-2137.

Hare, L., R. Carignan and M.A. Huerta-Diaz. 1994. A field experimental study of metal toxicity and accumulation by benthic invertebrates; implication for the acid volatile sulfide (AVS) model. *Limnol. Oceanogr.* 39:1653-1668.

Lee, B.-G., H.-S. Jeon, S.N. Luoma, J.-S. Yi, C.-H. Koh. 1998. Effects of AVS (Acid Volatile Sulfide) on the bioaccumulation of Cd, Ni, and Zn in bivalves and polychaetes. Abstract: 19th Annual Meeting of the Society of Environmental Toxicology and Chemistry. Charlotte, NC.

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Comment ID: CTR-097-002

Comment Author: Mark Shaw

Document Type: Citizen

State of Origin: CA

Represented Org:

Document Date: 10/03/97

Subject Matter Code: C-29 Bioaccumulation

References:

Attachments? N

CROSS REFERENCES

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Comment: The standards are too weak in that they fail to adequately account for the bioaccumulation of mercury in fish tissue. Studies of the Great Lakes indicate that such bioaccumulation is four to twenty

times greater than what the EPA projects for California.

Response to: CTR-097-002

The agency disagrees that the proposed criteria fail to adequately account for the bioaccumulation of mercury in fish tissue. The 1980 hg criterion, which is being used nationally until a new national HH criterion is derived, does use what is in effect a BAF (practical bioconcentration factors: PBCF) to account for biomagnification. As stated in the Preamble, the HH criterion is based on an average of "practical bioconcentration factors" for mercury as described in Ambient Water Quality Criteria for Mercury (EPA 440/5-80-058; Pages C-100-101). Because these PCBFs are derived from average mercury residues from commonly consumed aquatic organisms exposed in various water bodies (lakes, rivers, estuaries, oceans) and overall average total mercury concentrations in water, they incorporate potential mercury uptake indirectly from the food chain and directly from water.

Under Section 304 (a) of the Clean Water Act, EPA is required to establish National recommended water quality criteria. As such, the criteria must be applicable across all regions of the United States and, though considered protective of aquatic organisms, are based on central tendencies rather than solely site or State-specific data. However, if the State believe there are critical species or designated uses that may not be sufficiently protected by the National-based promulgated values, a site-specific criterion can be derived using appropriate data and adopted.

Please refer to the response for CTR-002-076 for additional discussion regarding bioaccumulation.

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Comment ID: CTR-099-003  
Comment Author: Emil A. Lawton, Ph.D.  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/03/97  
Subject Matter Code: C-29 Bioaccumulation  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Then, too, the levels for dioxin and mercury are materials that bioaccumulate. You should know that each consumption up the food chain biomagnifies by a factor of 10. Where are your scientists?

Response to: CTR-099-003

See response to CTR-097-002.

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Subject Matter Code: C-30 Narrative Criteria

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Comment ID: CTR-038-010  
Comment Author: Sonoma County Water Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-30 Narrative Criteria  
References:  
Attachments? Y

**CROSS REFERENCES**

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Comment: 9. EPA should delete recommendations that permit authorities utilize EPA or other criteria that have not been adopted as a part of the CTR as a basis for permit limits under the narrative toxicity criteria for toxics. The Preamble in E.3.b and the rule in footnote n to the criteria listed in 131.38(b)(2) recommend that the permitting authority base permit limits on criteria that are not being adopted as a part of the rule. This is not only unnecessary and inappropriate, but, in essence, it effectively constitutes adoption of those non-CTR criteria without considering costs and benefits or otherwise complying with Federal law and regulations.

Response to: CTR-038-010

EPA is requiring nothing in the CTR in the language cited by the commenter. For pollutants for which no criteria are promulgated as part of this rule, EPA is simply restating that according to existing law under the CWA, not affected by this rule, that permit writers are required to implement the narrative criteria, and that for arsenic, EPA recommends, but does not require, that permit writers may use the value California established for arsenic. EPA is not promulgating a criterion for arsenic in today's rule pending a review of the risk assessment for arsenic. Because the rule is simply restating what is required under existing law, these statements are not a cost of the CTR, but of prior existing law under the CWA and its implementing regulations.

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Comment ID: CTR-040-018c  
Comment Author: County of Sacramento Water Div  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-30 Narrative Criteria  
References: Letter CTR-040 incorporates by reference letter CTR-027  
Attachments? Y

**CROSS REFERENCES C-26**

G-03  
C-24e

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Comment: V. Recommendation: Delete all provisions in the Rule that preempt the States flexibility in permitting. The Rule provides specific direction on the adoption of averaging periods, low flow values,

effluent limitations for criteria not being adopted as a part of the Rule, and that the aquatic life criteria be applied to all waters irrespective of designated use, etc..

\* The Preamble and the Rule's economic analysis make a point that the State has considerable flexibility in establishing permit limitations. In making, that point, EPA implies that the State may implement the criteria in a manner that would have little or no adverse economic impact on dischargers.

\* However, the Rule contains a number of implementation provisions that are not required under Section 303(c)(2)(B), but serve to preempt the State's flexibility. These provisions include, but are not necessarily limited to the adoption of averaging periods and low flow values, directives regarding the establishment of effluent limitations for criteria that are not being adopted as a part of the Rule, and application of the aquatic life criteria to all waters irrespective of the designated use.

\* Not only does EPA not have a duty to adopt these provisions, but also the provisions are more restrictive than those required by the CWA or EPA regulations, They clearly restrict the State's flexibility. In fact, other states have adopted, and EPA has approved, implementation provisions (e.g., averaging periods and low flow values) which are less restrictive.

\* For these reasons, EPA should remove all such implementation provisions from the Rule.

Response to: CTR-040-018c

EPA has adopted recommendations for averaging periods and low flow values because these are intrinsic to ensuring that the numeric values are protective of the designated use. These factors are part of the ambient condition necessary, see preamble to the proposed CTR and Technical Support Document for Water Quality Based Toxics Control, U.S. EPA 1991, Section 2.3, and Appendix D.

The commenter asserts, but does not provide examples of situations where EPA has approved averaging periods and low flow values that are less restrictive than those incorporated into the final rule. Without specific examples provided, it is difficult for EPA to analyze any distinctions between these situations and the current rule. As a general matter, however, EPA uses the averaging period and low flow value when it promulgates criteria as representing EPA's best scientific judgement about these factors given all the uncertainties in deriving these factors. See Technical Support Document for Water Quality Based Toxics Control, U.S. EPA 1991, Section 2.3, and Appendix D. If a particular state elected to vary from EPA's recommendations, EPA would evaluate the basis presented and the particular facts of a given situation, and might render a different judgement. The commenter provided no specific critiques of the values used or information upon which EPA should base a decision to adjust these factors, and thus EPA has not changed them in response to comment.

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Comment ID: CTR-041-011  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-30 Narrative Criteria  
References:  
Attachments? N

## CROSS REFERENCES

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Comment: 6. Permit Authorities' Utilization of Criteria Not Adopted as Part of CTR

EPA should delete recommendations that permit authorities utilize EPA or other criteria that have not been adopted as part of the CTR as a basis for permit limits under the narrative toxicity criteria for toxics. The Preamble in E.3.b and the rule in footnote n to the criteria listed in 131.38(b)(2) recommend that the permitting authority base permit limits on criteria that are not being adopted as a part of the rule. This is not only unnecessary and inappropriate, but, in essence, it constitutes adoption of those non-CTR criteria without considering costs and benefits or otherwise complying with Federal law and regulations.

Response to: CTR-041-011

See response to CTR-038-010.

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Comment ID: CTR-043-009  
Comment Author: City of Vacaville  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-30 Narrative Criteria  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: 9. EPA should delete recommendations that permit authorities utilize EPA or other criteria that have not been adopted as a part of the CTR as a basis for permit limits under the narrative toxicity criteria for toxics. The Preamble in E.3.b and the rule in footnote n to the criteria listed in 131.38(b)(2) recommend that the permitting authority base permit limits on criteria that are not being adopted as a part of the rule. This is not only unnecessary and inappropriate, but, in essence, it constitutes adoption of those non-CTR criteria without considering costs and benefits and without complying with applicable Federal laws and regulations.

Response to: CTR-043-009

See response to CTR-038-010.

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Comment ID: CTR-044-010  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: C-30 Narrative Criteria  
References:

Attachments? Y

**CROSS REFERENCES**

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Comment: We have reviewed the proposed CTR and offer the following comments:

9. EPA should delete recommendations that permit authorities utilize EPA or other criteria that have not been adopted as a part of the CTR as a basis for permit limits under the narrative toxicity criteria for toxics. The Preamble in E.3.b and the rule in footnote n to the criteria listed in 131.38(b)(2) recommend that the permitting authority base permit limits on criteria that are not being adopted as a part of the rule. This is not only unnecessary and inappropriate, but, in essence, it constitutes adoption of those non-CTR criteria without considering costs and benefits and without complying with applicable Federal laws and regulations.

Response to: CTR-044-010

See response to CTR-038-010.

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Comment ID: CTR-053-002

Comment Author: Heal the Bay

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: C-30 Narrative Criteria

References: Letter CTR-053 incorporates by reference letter 6 and the comments on Dioxin, copper, and the compliance schedule from letter CTR-002

Attachments? N

**CROSS REFERENCES**

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Comment: One of Heal the Bay's principle activities is providing comments on NPDES permits for inland, bay and estuary discharges. For years, we have relied on narrative standards and the regional Basin Plan requirements as tools to ensure that inland, bay and estuary discharges were not impacting the beneficial uses of the receiving waters. These tools have proven inadequate for achieving the desired goal of beneficial use protection. This is why numeric criteria, like those in the proposed California Toxics Rule, are so important. The primary obstacle to implementation of the State's ISW/EB&E Plan is the requirement for the State to perform an analysis under the California Environmental Quality Act ("CEQA") for any numeric criteria adopted that is more stringent than Federal criteria. The SWRCB does not have the resources to perform these analysis for the numeric criteria recommended by the task force groups. Therefore, to move implementation of the plans forward, it was agreed that EPA would revise the California Toxics Rule and, simultaneously, the State would develop the implementation policy for the ISW/EB&E Plans. We support this effort because we strongly believe that these plans must be implemented sooner, rather than later, in order to improve impaired water quality throughout California. Therefore, we agree with the California Toxics Rule as it is proposed and do not include detailed comment on the specific criteria for individual pollutants.

Response to: CTR-053-002

EPA appreciates the commenter's support of the proposed rule.

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Comment ID: CTR-054-010  
Comment Author: Bay Area Dischargers Assoc.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-30 Narrative Criteria  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: EPA should delete recommendations that permit authorities utilize EPA or other criteria that have not been adopted as a part of the CTR as a basis for permit limits under the narrative toxicity criteria for toxics. The Preamble in E.3.b and the rule in footnote n to the criteria listed in 131.38(b)(2) recommend that the permitting authority base permit limits on criteria that are not being adopted as a part of the rule. This is not only unnecessary and inappropriate, but, in essence, it constitutes adoption of those non-CTR criteria without considering costs and benefits or otherwise complying with Federal law and regulations.

Response to: CTR-054-010

See response to CTR-038-010.

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Comment ID: CTR-061-007  
Comment Author: G. Fred Lee & Associates  
Document Type: Academia  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: C-30 Narrative Criteria  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: Page 42162, third column, first full paragraph, states,

"Criteria documents, along with any more recent scientific data and information, may be used to interpret a state's narrative criterion pursuant to 40 CFR 122.44(d)(1)(vi), and serve to establish State and EPA permit discharge limits pursuant to CWA section 301(b)(1)(c) which requires NPDES permits to contain limitations required to implement any applicable water quality standard established in the CWA."

This approach is technically invalid since it tends to over-regulate many of the chemical constituents for which water quality criteria exist and ignores the unregulated or under-regulated constituents.

Response to: CTR-061-007

See response to CTR-038-010.

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Subject Matter Code: D Preamble Editorial Comments

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Comment ID: CTR-022-001  
Comment Author: SWRCB  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: D Preamble Editorial Comments  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: Thank you for the opportunity to comment on the U.S. Environmental Protection Agency's (U.S. EPA) proposed California Toxic Rule (CTR). The State Water Resources Control Board (SWRCB) staff would like to recognize U.S. EPA's tremendous effort in producing the CTR. The SWCB staff are providing you with the following comments:

Page 42160: "Entities discharging pollutants to waters of the United States in California could be indirectly affected by this rulemaking....." Because the Clean Water Act requires that all NPDES permits include limits on discharges that are necessary to meet water quality standards, it appears that entities, such as industry and municipal discharges, could be directly affected by this rulemaking.

Response to: CTR-022-001

EPA disagrees with the commenter that the proposed CTR will directly impact municipal and industrial dischargers. The CTR promulgates water quality criteria which, by themselves, do not impact anyone. It is only when the State of California implements the water quality criteria through its water quality programs that impacts may occur. Different implementation methods can have significantly different impacts. Therefore, EPA's statement that the rule may indirectly impact entities discharging to waters of the U.S. in California is correct.

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Comment ID: CTR-022-002  
Comment Author: SWRCB  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: D Preamble Editorial Comments  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: Thank you for the opportunity to comment on the U.S. Environmental Protection Agency's (U.S. EPA) proposed California Toxic Rule (CTR). The State Water Resources Control Board (SWRCB) staff would like to recognize U.S. EPA's tremendous effort in producing the CTR. The SWRCB staff are providing you with the following comments:

Page 42163: 3rd column under C. State of California Actions ...last paragraph... "...the Inland Surface Water Plan (ISWP), the Enclosed Bay and Estuary Plan..." should be edited to read ... the Inland Surface Waters Plan (ISWP), the Enclosed Bays and Estuaries Plan.

Response to: CTR-022-002

EPA agrees with the commenter that the name of the State of California's implementation plans, which were invalidated by a State Court ruling, are the "Inland Surface Waters Plan" and the "Enclosed Bays and Estuaries Plan." EPA has made this correction in the preamble to the final rule.

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Comment ID: CTR-022-004  
Comment Author: SWRCB  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: D Preamble Editorial Comments  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Thank you for the opportunity to comment on the U.S. Environmental Protection Agency's (U.S. EPA) proposed California Toxic Rule (CTR). The State Water Resources Control Board (SWRCB) staff would like to recognize U.S. EPA's tremendous effort in producing the CTR. The SWRCB staff are providing you with the following comments:

Page 42207: Proposed rule, Section 131.38(d)(1): Please note that the basin plans, in general, identify waters subject to water quality standards in the chapters on beneficial uses. Many basin plans do not specify water quality objectives for the priority toxic pollutants.

Please reword the second and third sentences of this subsection to read:

"These criteria apply to waters identified in the Basin Plans. More particularly, these criteria apply to waters identified in the Basin Plan chapters designating beneficial uses for waters within the region."

Response to: CTR-022-004

EPA agrees with the commenter that the second and third sentences in section 131.38(d)(1) of the rule may be confusing. We have considered your suggestion and modified the language accordingly.

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Comment ID: CTR-035-013  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:

Document Date: 09/25/97

Subject Matter Code: D Preamble Editorial Comments

References:

Attachments? N

CROSS REFERENCES

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Comment: p. 42167 -- No Undue or Inappropriate Burden on the State of California or Its Dischargers

The preamble states that "Today's proposed rule would not impose any undue or inappropriate burden on the State of California or its dischargers." We must disagree with this statement. While EPA's intent with this statement is perhaps to compare California to other States where water quality criteria for toxic pollutants have already been adopted, EPA's own analysis determines that the rule will cost from \$15 to 87 million per year to implement which we believe to be a significant underestimate due to numerous uncertainties regarding whole categories of dischargers (i.e. nonpoint sources) and policies for implementation of the rule. Thus, it is both inaccurate and inappropriate for EPA to make the judgement that the rule will not impose an undue or inappropriate burden on the State or its dischargers.

Response to: CTR-035-013

EPA acknowledges the comment concerning the statement in the preamble that the CTR will not impose any undue or inappropriate burden on the State of California and its dischargers. EPA disagrees with the commenter that the statement in the preamble is inappropriate and inaccurate. The CTR promulgates water quality criteria for California that are required by the Clean Water Act under section 303(C)(2)(b), and that had been previously adopted by the State of California and approved by EPA. The State's criteria were rescinded after a State Court found that they had not been adopted in compliance with State law. Every other state in the nation, except California, is in substantial compliance with section 303(C)(2)(b) of the Clean Water Act. Thus, imposing these criteria on the State of California merely puts the State back into the position that it had been in, and into the same position as all other states in the nation. Thus, the criteria do not impose any undue or inappropriate burden.

With respect to the comment that the economic analysis for the proposed rule indicated that the rule would cost between 15 and 87 million dollars per year to implement, EPA acknowledges that the economic analysis indicates that some cost will be associated with how the State implements the CTR criteria into the NPDES permit program. Benefits, however, will also accrue. These costs are not significant pursuant to the language in Executive Order 12866, under which the economic analysis was completed. (See the discussion of costs and benefits in the preamble to the final rule under Executive Order 12866.)

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Comment ID: CTR-035-015

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: D Preamble Editorial Comments

References:

Attachments? N

CROSS REFERENCES

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Comment: pp. 42167-42181 -- Revised / Updated 304(a) Criteria

Please provide a table in the Preamble containing each criterion, indicating each parameter that has been changed since the promulgation in 1992 of the National Toxics Rule, references stating what documents or sources contain the pertinent information and when the changes were made, and directions for obtaining the documentation. This table should incorporate the information in the California Toxics Rule Administrative Record Matrix for human health criteria.

Response to: CTR-035-015

EPA acknowledges the comment that EPA provide a table in the preamble containing each criterion indicating how each had been changed since the National Toxics Rule, including references, documents, sources of information, when any changes were made, and directions for obtaining the information. For the aquatic life criteria, this information was provided in the preamble to the proposed rule and in the Administrative Record, and is again provided in the preamble to the final rule and in the Administrative Record. The preambles discuss and thoroughly explains all significant changes in aquatic life criteria from the National Toxics Rule. The Administrative Record contains all of the water quality criteria documents which explain how each aquatic life criterion was calculated, as well as the document entitled "The 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water," dated September 1996. This document explains the basis of several recently updated aquatic life criteria.

The preamble also discusses and thoroughly explains several significant changes in human health criteria from the National Toxics Rule. The Administrative Record contains a document entitled The California Toxics Rule Administrative Record Matrix which contains information on the basis of each human health criterion promulgated in the CTR.

The information the commenter is requesting is contained in the preambles and the Administrative Record.

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Comment ID: CTR-036-012

Comment Author: County of Orange

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: D Preamble Editorial Comments

References: Letter CTR-036 incorporates by reference letters CTR-013, CTR-018, CTR-031, CTR-034 and CTR-040

Attachments? N

CROSS REFERENCES

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Comment: Equitable Considerations in Proposing the CTR

EPA's promulgation of the California Toxics Rule is unwarranted since California was in the process of revising the Inland Surface Waters Plan and the Enclosed Bays and Estuaries Plan that were overturned by the Superior Court in 1994. California and its water resources would be better served and better

protected by allowing the State Water Board to continue developing its statewide water quality plans unburdened by the strictures of the proposed rule.

EPA's purpose to 'help restore equity among the states; 62 Fed. Reg. 42161, also appears unfounded since the proposed rule differs in a number of ways from the criteria in the National Toxics Rule.

Response to: CTR-036-012

EPA disagrees with the comment that the CTR is unwarranted since California is in the process of revising its statewide plans, and that the State's water resources would be better served by allowing the State to continue its plans unburdened by the strictures of the proposed rule. The State's plans are not being revised; the State's plans are being completely redrafted and repromulgated by the State in compliance with State law, which the State failed to do when it adopted its plans in 1991. Thus, currently the State does not have any statewide plans in place for surface waters or enclosed bays and estuaries to revise. The rescinded plans contained, and thus the State currently lacks, both a comprehensive set of water quality objectives for priority toxic pollutants, as required by the Clean Water Act section 303(C)(2)(b), and implementation plans to implement the resulting water quality standards.

The CTR does not burden the State in any way. The State is intending to readopt its plans in two phases: the first phase will be implementation procedures and the second phase will include water quality objectives for priority toxic pollutants. In fact, the CTR will help restore a comprehensive water quality program to the State of California sooner than the completion of the two phases of the State's plans, since the State will soon complete phase one of its readoption, and EPA has completed its promulgation of the CTR. The CTR, which will create numeric water quality standards, and phase one of the State's plans, which will create implementation, will allow the State to effectively implement numeric water quality standards for priority toxic pollutants for inland surface waters and enclosed bays and estuaries as soon as the State completes phase one of its repromulgation.

When the State completes phase two, the readoption of its water quality objectives, EPA will stay the CTR after its review and approval of the statewide plan. Thus, the CTR does not hinder the State in any way, and in fact helps the State by allowing it to implement numeric water quality standards for toxic pollutants sooner than if EPA had not promulgated the CTR.

The commenter also noted that it appeared that EPA's stated purpose in the preamble to the proposed CTR, that the CTR would restore equity among the states, was unfounded because the proposed rule differed from the National Toxics Rule. EPA disagrees with this comment. The National Toxics Rule applied to several states that were not in substantial compliance with the Clean Water Act at 303(C)(2)(b) at that time. When it was promulgated, all states except those in the National Toxics Rule were in substantial compliance with the Clean Water Act water quality provisions. The State of California was required to rescind its water quality control plans after the finalization of the National Toxics Rule; thus, California became the only state in the nation that was in substantial noncompliance. Thus, the CTR restores equity among the states by restoring numeric water quality standards for toxics to California, as all other states in the nation.

The commenter also noted that the CTR differed in a number of substantial ways from the National Toxics Rule. EPA disagrees with this comment. The criteria in the CTR reflect updated information and do not substantially differ from the criteria in the National Toxics Rule. The CTR criteria reflect EPA's most recent water quality criteria guidance issued under Clean Water Act section 304(a). The preamble discusses these changes in detail. In addition, the Clean Water Act requires states to update their water

quality criteria every three years, and incorporate EPA's most recent 304(a) criteria guidance where appropriate (where a state has not adopted and/or EPA has not approved, different, scientifically-based water quality criteria). Thus, the states are required to incorporate these updates into their own water quality program

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Comment ID: CTR-052-004

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: D Preamble Editorial Comments

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

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Comment: 1 . EPA has greatly understated the potential impacts of the CTR to the extent that statements in the preamble are completely misleading. On page 42160-1 of the Federal Register, EPA states:

"Potentially Affected Entities: Citizens concerned with water quality in California may be interested in this rulemaking. Entities discharging pollutants to waters of the United States in California could be indirectly affected by this rulemaking since water quality criteria are used to create water quality standards which in turn are used in developing National Pollutant Discharge Elimination System (NPDES) permit limits. Categories and entities which may ultimately be indirectly affected include:

CATEGORY --- Examples of potentially indirectly affected entities

----- INDUSTRY --- Industries discharging pollutants to surface waters in California.

MUNICIPALITIES --- Publicly-owned treatment works discharging pollutants to surface waters in California.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding NPDES regulated entities likely to be indirectly affected by this action. This table lists the types of entities that EPA is now aware could potentially be indirectly affected by this action." (emphasis added)

Based on the analysis prepared by BADA, CASA, and Tri-TAC, EPA's own acknowledgement that the CTR is primarily directed toward NPDES permit holders, the above statement is extremely misleading. EPA should be more forthcoming with information that is published in the Federal Register. If the CTR is promulgated in its current form, then the Authority recommends that the above statement be amended to read as follows:

"Affected Entities: Citizens concerned with water quality in California may be interested in this rulemaking. Entities discharging pollutants to waters of the United States in California will be directly affected by this rulemaking since water quality criteria are used to create water quality standards which in turn are used in developing National Pollutant Discharge Elimination System (NPDES) permit limits; Categories and entities which will be directly affected include:

CATEGORY --- Examples of directly affected entities ----- INDUSTRY ---  
Industries discharging pollutants to surface waters in California.

MUNICIPALITIES --- Publicly-owned treatment works discharging pollutants to surface waters in California.

OTHER INDUSTRIES AND COMMERCIAL ESTABLISHMENTS --- Industries and commercial establishments discharging pollutants to publicly-owned treatment works.

MEMBERS OF THE PUBLIC --- Members of the public that pay fees to publicly-owned treatment works for wastewater collection and treatment services and/or buy products produced by the entities described as "Industry" or "Other industries and commercial establishments", above.

This table provides a guide for readers regarding NPDES regulated entities that will be directly affected by this action. This table lists the types of entities that EPA is aware will be directly affected by this action."

Response to: CTR-052-004

In response to the comment that the CTR preamble is misleading when it states that municipalities and industries may be indirectly impacted by the rule, see response to CTR-022-001.

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Comment ID: CTR-061-015  
Comment Author: G. Fred Lee & Associates  
Document Type: Academia  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: D Preamble Editorial Comments  
References:  
Attachments? Y  
**CROSS REFERENCES**

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Comment: Page 42182, second column, first paragraph, uses the term "valence states" for the two forms of Cr. A more appropriate term is "oxidation state" for elements with different numbers of electrons in their outer shell. In chemistry, "valence" as a number has a number of different meanings which are not the same as those used in this context.

Response to: CTR-061-015

EPA disagrees with the comment that it has used the term "valence state" incorrectly with respect to its references to Chromium, and that the correct term should be "oxidation state." EPA believes the terms are interchangeable as used in this context; both terms refer to the ability of an atom to combine with other atoms.

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Subject Matter Code: E-01 Cost Analysis

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Comment ID: CTR-040-020  
Comment Author: County of Sacramento Water Div  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01 Cost Analysis  
References: Letter CTR-040 incorporates by reference letter CTR-027  
Attachments? Y  
CROSS REFERENCES M Re-Open Comment Period

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Comment: THE RULE SHOULD BE RE-PROPOSED

The above concerns are fundamental and the recommended modifications necessary to comply with applicable laws and regulations are substantial. For these reasons, we recommend that EPA modify the Rule to account for these and other comments and then re-propose the Rule.

Response to: CTR-040-020

For analysis of the final CTR, EPA updated its Economic Analysis to reflect the most recent data and information for each sample facility and also increased the sample size for minor facilities. Based on this revised analysis, EPA estimated that minor POTWs will incur costs of approximately \$5,000 per facility per year under the low cost scenario and \$7,800 per facility per year under the high cost scenario. See also response to CTR-058-018.

In response to the comment requesting that EPA re-propose and re-open the public comment period, please refer to response to CTR-005-010.

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Comment ID: CTR-040-022  
Comment Author: County of Sacramento Water Div  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01 Cost Analysis  
References: Letter CTR-040 incorporates by reference letter CTR-027  
Attachments? Y  
CROSS REFERENCES

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Comment: Overall Conclusions

When EPA concludes that the costs and benefits of the CTR are of similar magnitude, EPA is comparing apples with oranges.

\* The costs are based on the estimated costs of point source controls, which would be required as a

result of the CTR.

\* The benefits are based on the assumption that nonpoint source controls, which would not be required as a result of the CTR, will be implemented (nonpoint sources are not regulated under the Clean Water Act).

The Economic Analysis is based on procedures and assumptions that greatly understate costs and benefits.

Based on estimates prepared by municipal wastewater and stormwater organizations, the costs of the CTR could be as high as \$8 billion annually, almost two orders of magnitude greater than the high-end costs estimated by EPA (\$85 million annually).

Based on case study analyses of benefits by municipal wastewater and stormwater organizations, the benefits of the CTR could be immeasurable and possibly even negative (For example, the CTR could force the removal of treated wastewater and stormwater from effluent dependent waters and thereby destroy the aquatic and riparian habitat created by the discharges). In large part, the absence of benefits is due to the fact (which EPA acknowledges in its analysis) that point sources are minor sources of toxic pollutants, and the fact that the major sources (i.e., the nonpoint sources) are not regulated under the Clean Water Act or the CTR.

EPA inappropriately compares costs for reducing pollutants that would be reduced as a result of the CTR (e.g., metals) with the benefits derived from the reduction of pollutants that will not be controlled as a result of the CTR (e.g., DDT).

EPA should prepare a new economic analysis using the following approach:

- \* Compare costs for point sources controls with benefits that will result from implementation of those controls using representative case studies.
- \* Compare costs and benefits on a pollutant-by-pollutant basis.

Response to: CTR-040-022

See responses to CTR-041-018, CTR-054-013a, CTR-040-042, CTR-035-057, CTR-056-018, CTR-021-008, and CTR-021-006b.

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Comment ID: CTR-040-023

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01 Cost Analysis

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: Review of EPA's Analysis of Potential Costs

EPA incorrectly asserts that the water quality criteria in the CTR will not directly impose economic impacts. In fact, the CWA requires that NPDES permits contain effluent limits necessary to achieve water quality criteria, and EPA regulations and guidelines (as well as the CTR) specify the methods that must be used to calculate effluent limits. Although the State has some flexibility, the flexibility is limited. The CTR will impose impacts.

Response to: CTR-040-023

See responses to CTR-009-008a, CTR-021-005c, and CTR-056-018.

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Comment ID: CTR-041-018

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01 Cost Analysis

References:

Attachments? N

CROSS REFERENCES

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Comment: Overall Conclusions

When EPA concludes that the costs and benefits of the CTR are of similar magnitude, EPA is comparing apples with oranges.

\* The costs are based on the estimated costs of point source controls, which would be required as a result of the CTR.

\* The benefits are based on the assumption that nonpoint source controls, which would not be required as a result of the CTR will be implemented (nonpoint sources are not regulated under the Clean Water Act).

The Economic Analysis is based on procedures and assumptions that greatly understate costs and overstate benefits.

Based on estimates prepared by municipal wastewater and stormwater organizations, the costs of the CTR could be as high as \$8 billion annually, almost two orders of magnitude greater than the high-end costs estimated by EPA (\$85 million annually).

Based on case study analyses of benefits by municipal wastewater and stormwater organization, the benefits of the CTR could be immeasurable and possibly even negative (For example, the CTR could force the removal of treated wastewater and stormwater from effluent dependent waters and thereby destroy the aquatic and riparian habitat created by the discharges). In large part, the absence of benefits is due to the fact (which EPA acknowledges in its analysis) that point sources are minor sources of toxic pollutants, and the fact that the major sources (i.e., the nonpoint sources) are not regulated under the

Clean Water Act or the CTR.

EPA inappropriately compares costs for reducing pollutants that would be reduced as a result of the CTR (e.g., metals) with the benefits derived from the reduction of pollutants that will not be controlled as a result of the CTR (e.g., DDT).

EPA should prepare a new economic analysis using the following approach:

- \* Compare costs for point sources controls with benefits that will result from implementation of those controls using representative case studies.
- \* Compare costs and benefits on a pollutant-by-pollutant basis.

Response to: CTR-041-018

See responses to CTR-054-013a, CTR-040-042, CTR-035-057, CTR-056-018, and CTR-021-008.

Although the standards established by the CTR apply to all sources, EPA's analysis examined only the portion of benefits expected to be achieved by controlling point sources. EPA estimated the point source share of benefits based on data and information on the relative contribution of all sources to toxic loadings in California waters. Although point sources may account for only a small portion of the load in some waters, they may account for relatively larger portions at some sites, and point source controls will contribute to meeting standards in the water bodies.

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Comment ID: CTR-041-019  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01 Cost Analysis  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Review of EPA's Analysis of Potential Costs

EPA incorrectly asserts that the water quality criteria in the CTR will not directly impose economic impacts. In fact, the CWA requires that NPDES permits contain effluent limits necessary to achieve water quality criteria, and EPA regulations and guidelines (as well as the CTR) specify the methods that must be used to calculate effluent limits. Although the State has some flexibility, the flexibility is limited. The CTR will impose impacts.

Response to: CTR-041-019

See responses to CTR-009-008a, CTR-021-005c, CTR-056-018, and the preamble to the final rule.

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Comment ID: CTR-044-013  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01 Cost Analysis  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Overall Conclusions

When EPA concludes that the costs and benefits of the CTR are of similar magnitude, EPA is comparing apples with oranges.

- \* The costs are based on the estimated costs of point source controls, which would be required as a result of the CTR.
- \* The benefits are based on the assumption that nonpoint source controls, which would not be required as a result of the CTR will be implemented (nonpoint sources are not regulated under the Clean Water Act).

The Economic Analysis is based on procedures and assumptions that greatly understate costs and overstate benefits.

Based on estimates prepared by municipal wastewater and stormwater organizations, the costs of the CTR could be as high as \$8 billion annually, almost two orders of magnitude greater than the high-end costs estimated by EPA (\$85 million annually).

Based on case study analyses of benefits by municipal wastewater and stormwater organization, the benefits of the CTR could be immeasurable and possibly even negative (For example, the CTR could force the removal of treated wastewater and stormwater from effluent dependent waters and thereby destroy the aquatic and riparian habitat created by the discharges). In large part, the absence of benefits is due to the fact (which EPA acknowledges in its analysis) that point sources are minor sources of toxic pollutants, and the fact that the major sources (i.e., the nonpoint sources) are not regulated under the Clean Water Act or the CTR.

EPA inappropriately compares costs for reducing pollutants that would be reduced as a result of the CTR (e.g., metals) with the benefits derived from the reduction of pollutants that will not be controlled as a result of the CTR (e.g., DDT).

EPA should prepare a new economic analysis using the following approach:

- \* Compare costs for point sources controls with benefits that will result from implementation of those controls using representative case studies.
- \* Compare costs and benefits on a pollutant-by-pollutant basis.

Response to: CTR-044-013

See responses to CTR-041-018, CTR-054-013a, CTR-040-042, CTR-035-057, CTR-056-018, CTR-021-008, and CTR-021-006b.

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Comment ID: CTR-044-014  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01 Cost Analysis  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Review of EPA's Analysis of Potential Costs

EPA incorrectly asserts that the water quality criteria in the CTR will not directly impose economic impacts. In fact, the CWA requires that NPDES permits contain effluent limits necessary to achieve water quality criteria, and EPA regulations and guidelines (as well as the CTR) specify the methods that must be used to calculate effluent limits. Although the State has some flexibility, the flexibility is limited. The CTR will impose impacts.

Response to: CTR-044-014

See responses to CTR-009-008a, CTR-021-005c, and CTR-056-018.

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Comment ID: CTR-047-001  
Comment Author: City of Santa Fe Springs  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: E-01 Cost Analysis  
References: Letter CTR-047 incorporates by reference letters CTR-013 and CTR-027.  
Attachments? N  
CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our storm water program:

1. The application of water quality standards to calculate water quality-based effluent limits for NPDES permits for municipal storm water discharges. As proposed by the USEPA, the numeric water quality standards in the California Toxics Rule will be used to calculate water quality-based effluent limitations for all NPDES permits issued by the State. We believe that this position is inconsistent with the plain

language used by Congress in incorporating the "maximum extent practicable" standard for municipal separate storm sewers systems (MS4s) into section 410(p) (3) (B) of the Clean Water Act. We recommend that the USEPA modify the Preamble to clarify that MS4s are not required to comply with water quality standards.

Response to: CTR-047-001

EPA's criteria for priority toxic pollutants were developed to protect beneficial designated uses. The criteria are independent of considerations about different categories of dischargers. In implementing water quality standards, the State has some degree of flexibility in establishing NPDES permit requirements or best management practices that would be appropriate for small municipal separate storm sewer systems.

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Comment ID: CTR-052-003b

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: SC

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01 Cost Analysis

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES C-13

E-02

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Comment: However, the Authority is greatly disappointed that EPA chose not to follow the consensus recommendations for many of the most significant issues, including the methodology used for the EA and the choice of using the most conservative carcinogenicity factor for organic pollutants.

Response to: CTR-052-003b

While EPA agrees that the methodology recommended by the State Task Force on Economic Considerations may be one adequate method for the State to calculate the costs and benefits of State adoption and implementation of water quality standards, EPA did not use this method for its own Economic Analysis (EA) for the following reasons:

\* EPA's primary responsibility in developing the EA is that it meets the requirements of Executive Order 12866. For program consistency, EPA chose to model the methodology of the EA after the Regulatory Impact Analysis of the Great Lakes Water Quality Guidance which successfully underwent the full Executive Order 12866 process.

\* EPA had already established its own methodology and began work on the EA nearly one year before the Task Force began meeting. In light of the substantial resources that EPA already used in its preparation of the EA, EPA could not fundamentally switch the methodology in the middle of the project due to the limited resources that could be spent on the EA. In addition, many task force members acknowledged that the consensus recommendation was a very resource intensive method and it was uncertain whether adequate data currently existed to bring this methodology to completion. EPA did not have the resources nor the data to perform this type of analysis in the time available.

\* The State Task Force recommended a methodology, for future analysis by the State, that would gather ambient data to determine waters that were impaired by toxics, and then determine what actions needed to be taken by point and non-point sources to meet new water quality criteria. EPA determined that this methodology may be appropriate for future State analysis, but was not appropriate for EPA's Economic Analysis since EAs under the CWA typically estimate only costs that EPA can implement under the Clean Water Act. Therefore, EPA's EA only calculates potential costs and benefits due to controls on NPDES point sources (excluding wet-weather discharges). EPA believes it may be more appropriate for the State to estimate potential impacts on non-point sources since it has the sole authority for implementing any controls required by non-point sources.

EPA does not agree that its decision to use a 10<sup>-6</sup> risk level for carcinogenic pollutants conflicts with any of the State Task Force consensus recommendations. EPA does not observe in the Final Task Force Report, an explicit consensus recommendation of any specific risk level for carcinogenic pollutants.

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Comment ID: CTR-054-017

Comment Author: Bay Area Dischargers Associati

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01 Cost Analysis

References:

Attachments? N

CROSS REFERENCES

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Comment: Overall Conclusions

When EPA concludes that the costs and benefits of the CTR are of similar magnitude, EPA is comparing apples with oranges.

\* The costs are based on the estimated costs of point source controls, which would be required as a result of the CTR.

\* The benefits are based on the assumption that nonpoint source controls, which would not be required as a result of the CTR will be implemented (nonpoint sources are not regulated under the Clean Water Act).

The Economic Analysis is based an procedures and assumptions that greatly understate costs and overstate benefits.

Based on estimates prepared by municipal wastewater and stormwater organizations, the costs of the CTR could be as high as \$8 billion annually, almost two orders of magnitude greater than the high-end costs estimated by EPA (\$85 million annually).

Based on case study analyses of benefits by municipal wastewater and stormwater organization, the benefits of the CTR could be immeasurable and possibly even negative (For example, the CTR could force the removal of treated wastewater and stormwater from effluent dependent waters and thereby

destroy the aquatic and riparian habitat created by the discharges). In large part, the absence of benefits is due to the fact (which EPA acknowledges in its analysis) that point sources are minor sources of toxic pollutants, and the fact that the major sources (i.e., the nonpoint sources) are not regulated under the Clean Water Act or the CTR.

EPA inappropriately compares costs for reducing pollutants that would be reduced as a result of the CTR (e.g., metals) with the benefits derived from the reduction of pollutants that will not be controlled as a result of the CTR (e.g., DDT).

EPA should prepare a new economic analysis using the following approach:

- \* Compare costs for point sources controls with benefits that will result from implementation of those controls using representative case studies.
- \* Compare costs and benefits on a pollutant-by-pollutant basis.

Response to: CTR-054-017

See responses to CTR-041-018, CTR-054-013a, CTR-040-042, CTR-035-057, CTR-056-018, CTR-021-008, and CTR-021-006b.

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Comment ID: CTR-054-018  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01 Cost Analysis  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Review of EPA's Analysis of Potential Costs

EPA incorrectly asserts that the water quality criteria in the CTR will not directly impose economic impacts. In fact, the CWA requires that NPDES permits contain effluent limits necessary to achieve water quality criteria, and EPA regulations and guidelines (as well as the CTR) specify the methods that must be used to calculate effluent limits. Although the State has some flexibility, the flexibility is limited. The CTR will impose impacts.

Response to: CTR-054-018

See responses to CTR-009-008a, CTR-021-005c, and CTR-056-018.

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Comment ID: CTR-059-026  
Comment Author: Los Angeles County Sanit. Dist  
Document Type: Sewer Authority

State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01 Cost Analysis  
References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y  
CROSS REFERENCES E-01g08

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Comment: Based on these and other issues discussed in the comments submitted by Tri-TAC & CASA, we strongly urge EPA to revise its Economic Analysis, and recommend that EPA and the SWRCB work together with stakeholders to craft a revised approach that is mutually acceptable. We would be pleased to assist in such an effort.

Response to: CTR-059-026

See response to CTR-034-016.

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Comment ID: CTR-091-002a  
Comment Author: Abu-Saba, Ganguli, Flegal  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org: Coastal Advocates  
Document Date: 09/25/97  
Subject Matter Code: E-01 Cost Analysis  
References:  
Attachments? N  
CROSS REFERENCES E-02

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Comment: This comment addresses the mercury criteria for continuous concentration (CCC) proposed in 40 CFR, part 131(\*1). The proposed aquatic health and human health criteria do not protect aquatic life or humans from mercury contamination. This is demonstrated by the scientific data presented herein. That information includes published and unpublished results from scientists with established reputations in environmental research.

The aquatic life mercury CCC is proposed to be raised sixty-fold, from the National Toxics Rule standard of 0.012 micrograms per liter (ppb) to 0.770 ppb. The human health criteria is proposed to be raised four-fold, from 0.0 12 ppb to 0.050 ppb. These proposed changes have potentially devastating economic and environmental costs that must be included in the EPA's cost-benefit analysis. Water treatment costs for the metals mercury, silver, and chromium account for 30% of costs projected in the, California Toxics Rule (CTR) economic analysis. However, the long term environmental and economic cost of mercury contamination may far exceed the short term economic savings resulting from an increase in the mercury CCC. This is especially true in California, a mining state that has devoted hundreds of millions of dollars to restoration and enhancement of commercial and sport fisheries by enactment of Proposition 204.

The potential long-term economic and environmental costs of this proposed legislation far exceed any short-term benefits gained by raising the mandatory action level for mercury contamination. A stated goal of the recently passed Proposition 204 legislation is the protection and enhancement of commercial

and sport fishing in the State of California. To that end, hundreds of millions of dollars have been committed to water quality improvement and fish habitat restoration. Increasing the permissible mercury limits will not only hinder those goals, but will likely cause irreversible damage to the environment well into the foreseeable future.

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(\*1) Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; Proposed Rule. U.S. Environmental Protection Agency, Region Nine; U.S. Government Printing Office: Washington D.C., 1997; Federal Register, 62, 42159-42207.

Response to: CTR-091-002a

The aquatic life criteria have been updated using EPA's peer-reviewed and accepted aquatic life methodology. The previous 304(a) criteria guidance value was based on an FDA action level for humans, not on aquatic life protection. As such, the previous criteria are not as appropriate to use as the updated criteria proposed in the CTR. The revised criteria are less stringent than the previous criteria. The human health criteria proposed in the CTR have also been updated using the risk reference dose for methylmercury. The previous 304(a) criteria guidance values were based on the risk reference dose for mercury. The revised human health criteria in the CTR are more stringent than the previous human health criteria guidance.

All water quality standards are comprised of three parts: a designated use, criterion, and an antidegradation requirement. The CTR only proposes criteria. The State of California has adopted designated uses for its water bodies (called beneficial uses) in the Regional Water Board Basin Plans. The State has also adopted antidegradation provisions in each of the Regional Board Basin Plans. These provisions require that water quality in a waterbody cannot be degraded (with narrow exceptions as discussed at 40 CFR 131.12(a) (2) which allow a lowering of water quality if the State finds that it is necessary to accommodate important economic or social development). Thus, if a waterbody has achieved a certain level of cleanliness or is in a pristine condition, discharges are not allowed to degrade the water quality. Therefore, no environmental "cost" or degradation will be incurred as a result of any new or revised water quality criteria in the CTR that may be less stringent than a previously adopted objective or a criteria guidance value. Environmental benefits that have been gained in California fisheries or anywhere else cannot be destroyed.

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Comment ID: CTR-107-001  
Comment Author: Brian E. Hill  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01 Cost Analysis  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: This letter is in regards to the U.S. Environmental Protection Agency (EPA) proposing water quality standards for priority toxic pollutants in California. This is referred to as the California Toxics Rule (CTR). Due to the fact that I work in the Water Pollution Control Industry, I am following this

issue very closely. However, this letter is coming from a concerned tax payer.

As you may already know, under provisions of the Clean Water Act every state is required to have water quality standards for priority toxic pollutants. In 1994 California's version of that provision was overturned in State court due to a violation in the implementation of the rule. Subsequently, the U.S. EPA has proposed a rule in order to bring California into compliance. The criteria proposed by the U.S. EPA are extremely stringent and could cost California taxpayers hundreds of millions of dollars.

Response to: CTR-107-001

Although EPA promulgated specific criteria for the State of California under the CTR, EPA promulgated ambient water quality criteria for the entire United States, including California, under the National Toxics Rule (NTR), and the costs of the NTR are borne by dischargers in all NTR States. The [document name] compares the NTR to the CTR and demonstrates that the CTR criteria are rarely, if ever, more stringent than the NTR criteria. Thus, dischargers face a "level playing field" across California and NTR States. See also response to CTR-021-005c.

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Comment ID: CTR-107-002a  
Comment Author: Brian E. Hill  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01 Cost Analysis  
References:  
Attachments? Y  
CROSS REFERENCES G-02  
E-01n

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Comment: On September 17, I attended a hearing on the proposed CTR at the EPA's regional office in San Francisco. Here are some key issues from the testimony at that hearing:

- \* Some of the limits are below normal detection limits, therefore agencies have no background data in order to perform accurate attainability analysis.
- \* The cost of implementation by the EPA is grossly underestimated. The economic analysis shows a maximum implementation cost of \$87 million. If preliminary estimates by publicly owned treatment works (POTW) are correct, implementation of the CTR will far exceed the \$100 million provision of the Porter-Cologne Act. If this is the case, feasibility of implementation will be in jeopardy. The City of Merced, CA estimates that their additional cost would be \$4 million annually. Merced has a very small treatment facility.
- \* Robert Reid, speaking on behalf of California Association of Sanitation Agencies (CASA), said that four San Francisco Plants estimate their total implementation costs to be \$160 million annually.
- \* Charles Batts of Bay Area Dischargers Authority (BADA) estimated five BADA POTWs costs to be \$12 million per year to meet the strict limit on copper and \$56 million per year to meet the organics limit.

\* The Regional Water Quality Control Board testified that San Francisco discharges twenty percent of the four percent discharged into the San Francisco Bay by POTWs, noting that POTWs are only a minor part of the volume discharged into the Bay. Thus, the reduction to the prescribed limits would cause a negligible decrease in the total mass of pollutants discharged.

\* The City of Sacramento projects a \$200 million annual cost will be required to meet the copper limit.

All of the testimony at the hearing echoed these concerns. I am sure that you have access to a transcript. The Clean Water Act has been and is instrumental in cleaning up our rivers, lakes, bay and estuaries. We can continue on this steady path by setting gradual attainable limits and through increased public education. Limits on pollutants should continue to get stricter, but this has to occur on a gradual curve that will not place an unreasonable burden on the individual taxpayer.

Response to: CTR-107-002a

Regarding limits being below detection levels see response to CTR-035-064.

EPA disagrees that costs are underestimated. For further discussion, see responses to CTR-040-039 and CTR-035-011a. EPA also disagrees with the \$4 million annual cost estimate for Merced, the \$160 million annual estimate for the four San Francisco plants, the BADA POTW cost estimates, and the \$200 million cost estimate for copper for the City of Sacramento, however, no supporting data were provided for EPA to be able to evaluate these cost estimates. EPA evaluated the City of Merced facility as one of its sample facilities and estimated costs for Merced to range from \$140,000 to \$590,000 annually. EPA believes that pollution prevention and process optimization would be sufficient for Merced to ensure compliance with CTR-based limits. EPA also evaluated Sacramento as another sample facility and did not estimate reasonable potential for copper. EPA's cost estimate for Sacramento for the control of lead and mercury ranged from \$90,000 to \$320,000 annually for pollution prevention and process optimization.

EPA disagrees with the commenter that the decrease in the mass of pollutants discharged to San Francisco Bay would be negligible (as the San Francisco POTW represents only 20% of the 4% that POTWs contribute to the total mass discharged). Commercial and industrial facilities will also be required to meet CTR-based effluent limits which may result in additional reductions in mass discharges. EPA is promulgating the CTR criteria in order to protect human health and the aquatic environment which will benefit from pollutant reductions as is described in the Economic Analysis of the final CTR.

See also responses to CTR-041-018, CTR-038-003, CTR-056-018, CTR-021-005c, and CTR-021-010.

Subject Matter Code: E-01a Baselines

Comment ID: CTR-040-035

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01a Baselines

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

## CROSS REFERENCES

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Comment: In its high-end cost scenario, EPA accepted existing permit limits as a baseline even if those permit limits were based on the old State Plans. In fact, permit limits based on the illegal State Plans are themselves illegal and do not constitute an appropriate baseline.

Response to: CTR-040-035

See response to CTR-040-026.

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Comment ID: CTR-041-031

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01a Baselines

References:

Attachments? N

## CROSS REFERENCES

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Comment: In its high-end cost scenario, EPA accepted existing permit limits as a baseline even if those permit limits were based on the old State Plans. In fact, permit limits based on the illegal State Plans are themselves illegal and do not constitute an appropriate baseline.

Response to: CTR-041-031

See response to CTR-040-026.

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Comment ID: CTR-044-026

Comment Author: City of Woodland

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01a Baselines

References:

Attachments? N

## CROSS REFERENCES

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Comment: In its high-end cost scenario, EPA accepted existing permit limits as a baseline even if those permit limits were based on the old State Plans. In fact, permit limits based on the illegal State Plans are themselves illegal and do not constitute an appropriate baseline.

Response to: CTR-044-026

See response to CTR-040-026.

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Comment ID: CTR-054-030  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01a Baselines  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: In its high-end cost scenario, EPA accepted existing permit limits as a baseline even if those permit limits were based on the old State Plans. In fact, permit limits based on the illegal State Plans are themselves illegal and do not constitute an appropriate baseline.

Response to: CTR-054-030

See response to CTR-040-026.

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Comment ID: CTR-092-017  
Comment Author: City of San Jose, California  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01a Baselines  
References: Letter CTR-092 incorporates by reference letter CTR-035  
Attachments? Y

**CROSS REFERENCES**

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Comment: Comment #1: Application of the Analysis to San Jose

The derivation of the baseline cost models utilized in the Economic Analysis is detailed and complex. One element of Model 2, the benchmarks for the Low End and High End Cost Scenarios, can be extracted and highlighted as problematic for San Jose. Briefly, the cost of implementation of the CTR is measured by variation, at the low end, between current effluent concentrations and the concentrations which might be allowed by the CTR; and at the high end, by the difference between current permit limits and limits which might be allowed by the CTR.

The high end benchmark assumes that POTW's are already in compliance with their NPDES permit limits so that costs of "new" regulations, e.g. the CTR, can be segmented from "old" regulations, or existing permit compliance costs. In cases where a POTW is not in permit compliance on a particular element, the Model 2 high end benchmark assumes that there is no cost incurred due to federal implementation of the California Toxics Rule. This implies that any costs incurred in meeting the CTR

are really costs of getting into compliance with State regulation.

#### Questions for EPA on Comment #1

Q. 1 - 1) Did EPA undertake any sensitivity analysis to measure the impact of the high end assumptions on the \$87 million high end cost estimate for overall CTR implementation? What if, for analytic purposes, the high end assumption was modified such that costs of attaining permit compliance (for all POTW's who are not in compliance on some element) was considered as a proxy for Rule implementation costs -- what increment of cost would be added to the \$87 million estimate?

Q. 1-2) Under the existing assumptions, what share of the \$87 million high end cost was attributable to the San Jose/Santa Clara POTW? What was San Jose/Santa Clara's contribution to the low end cost?

Q. 1-3) What would San Jose/Santa Clara POTW contribution be to the modified high end case, under the assumptions stated in Q. 1 - 1, above?

Response to: CTR-092-017

The methodology used to analyze each facility was described in detail in the cost report, Economic Analysis (EA), and technical support document that accompanies the record for the final rule. Following the public comment period for the proposed rule, EPA conducted a revised analysis of the potential costs and benefits of the rule (high scenario costs are estimated to be \$61 million). EPA used the same methodology for estimating costs for the final rule but developed a completely updated data set for each of the sample facilities. The updated data represent the most recent three years of data available from public sources for each facility. EPA also considered any data submitted during the public comment period. Therefore, EPA's revised analysis should reflect representative information for each facility. The revised analysis of costs is again presented in detail in the EA and technical support document for the final CTR.

EPA did not estimate the costs for facilities to come into compliance with existing permit limits (see response to CTR-092-019). EPA does not agree with the commenter that this would be a suitable proxy for CTR implementation costs because ensuring compliance with existing permit limits represents costs that facilities would incur regardless of the CTR. Such an estimate would double count those costs attributable to existing state regulations and existing permit limits, instead of accounting for only those costs attributable to the CTR. See response to CTR-092-019.

Nonetheless, if San Jose's costs were evaluated as the commenter suggests (i.e., the cost of attaining permit compliance is used as a proxy for CTR implementation costs), there would be no change from EPA's current cost estimate. Twenty-one of 25 observations for copper are below the CTR-based limit and the existing permit limit. The maximum effluent concentration exceeds the existing permit limit, however, no costs other than pollution prevention costs estimated under EPA's high scenario would be incurred to ensure compliance with the CTR-based limit.

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Subject Matter Code: E-01a Baselines

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Comment ID: CTR-040-035  
Comment Author: County of Sacramento Water Div  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01a Baselines  
References: Letter CTR-040 incorporates by reference letter CTR-027  
Attachments? Y

**CROSS REFERENCES**

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Comment: In its high-end cost scenario, EPA accepted existing permit limits as a baseline even if those permit limits were based on the old State Plans. In fact, permit limits based on the illegal State Plans are themselves illegal and do not constitute an appropriate baseline.

Response to: CTR-040-035

See response to CTR-040-026.

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Comment ID: CTR-041-031  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01a Baselines  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: In its high-end cost scenario, EPA accepted existing permit limits as a baseline even if those permit limits were based on the old State Plans. In fact, permit limits based on the illegal State Plans are themselves illegal and do not constitute an appropriate baseline.

Response to: CTR-041-031

See response to CTR-040-026.

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Comment ID: CTR-044-026  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97

Subject Matter Code: E-01a Baselines

References:

Attachments? N

CROSS REFERENCES

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Comment: In its high-end cost scenario, EPA accepted existing permit limits as a baseline even if those permit limits were based on the old State Plans. In fact, permit limits based on the illegal State Plans are themselves illegal and do not constitute an appropriate baseline.

Response to: CTR-044-026

See response to CTR-040-026.

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Comment ID: CTR-054-030

Comment Author: Bay Area Dischargers Associati

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01a Baselines

References:

Attachments? N

CROSS REFERENCES

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Comment: In its high-end cost scenario, EPA accepted existing permit limits as a baseline even if those permit limits were based on the old State Plans. In fact, permit limits based on the illegal State Plans are themselves illegal and do not constitute an appropriate baseline.

Response to: CTR-054-030

See response to CTR-040-026.

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Comment ID: CTR-092-017

Comment Author: City of San Jose, California

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01a Baselines

References: Letter CTR-092 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES

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Comment: Comment #1: Application of the Analysis to San Jose

The derivation of the baseline cost models utilized in the Economic Analysis is detailed and complex.

One element of Model 2, the benchmarks for the Low End and High End Cost Scenarios, can be extracted and highlighted as problematic for San Jose. Briefly, the cost of implementation of the CTR is measured by variation, at the low end, between current effluent concentrations and the concentrations which might be allowed by the CTR; and at the high end, by the difference between current permit limits and limits which might be allowed by the CTR.

The high end benchmark assumes that POTW's are already in compliance with their NPDES permit limits so that costs of "new" regulations, e.g. the CTR, can be segmented from "old" regulations, or existing permit compliance costs. In cases where a POTW is not in permit compliance on a particular element, the Model 2 high end benchmark assumes that there is no cost incurred due to federal implementation of the California Toxics Rule. This implies that any costs incurred in meeting the CTR are really costs of getting into compliance with State regulation.

#### Questions for EPA on Comment #1

Q. 1 - 1) Did EPA undertake any sensitivity analysis to measure the impact of the high end assumptions on the \$87 million high end cost estimate for overall CTR implementation? What if, for analytic purposes, the high end assumption was modified such that costs of attaining permit compliance (for all POTW's who are not in compliance on some element) was considered as a proxy for Rule implementation costs -- what increment of cost would be added to the \$87 million estimate?

Q. 1-2) Under the existing assumptions, what share of the \$87 million high end cost was attributable to the San Jose/Santa Clara POTW? What was San Jose/Santa Clara's contribution to the low end cost?

Q. 1-3) What would San Jose/Santa Clara POTW contribution be to the modified high end case, under the assumptions stated in Q. 1 - 1, above?

Response to: CTR-092-017

The methodology used to analyze each facility was described in detail in the cost report, Economic Analysis (EA), and technical support document that accompanies the record for the final rule. Following the public comment period for the proposed rule, EPA conducted a revised analysis of the potential costs and benefits of the rule (high scenario costs are estimated to be \$61 million). EPA used the same methodology for estimating costs for the final rule but developed a completely updated data set for each of the sample facilities. The updated data represent the most recent three years of data available from public sources for each facility. EPA also considered any data submitted during the public comment period. Therefore, EPA's revised analysis should reflect representative information for each facility. The revised analysis of costs is again presented in detail in the EA and technical support document for the final CTR.

EPA did not estimate the costs for facilities to come into compliance with existing permit limits (see response to CTR-092-019). EPA does not agree with the commenter that this would be a suitable proxy for CTR implementation costs because ensuring compliance with existing permit limits represents costs that facilities would incur regardless of the CTR. Such an estimate would double count those costs attributable to existing state regulations and existing permit limits, instead of accounting for only those costs attributable to the CTR. See response to CTR-092-019.

Nonetheless, if San Jose's costs were evaluated as the commenter suggests (i.e., the cost of attaining permit compliance is used as a proxy for CTR implementation costs), there would be no change from EPA's current cost estimate. Twenty-one of 25 observations for copper are below the CTR-based

limitand the existing permit limit. The maximum effluent concentration exceeds the existing permit limit, however, no costs other than pollution prevention costs estimated under EPA's high scenario would be incurred to ensure compliance with the CTR-based limit.

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Subject Matter Code: E-01a02 Cost Diff. for Eff. Limit

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Comment ID: CTR-035-058  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01a02 Cost Diff. for Eff. Limit  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: Weaknesses in Cost Analysis

The report's cost estimates exhibit a number of significant weaknesses, as follows:

\* Omission of other "baseline" costs may act to artificially reduce USEPA's estimates.

USEPA's baseline adjustment (U.S. EPA, 1997a, page 5-7) implies that the costs associated with meeting existing requirements which are currently not being met should be excluded from the analysis. However, to the extent that these costs are higher than the report's cost limit triggers (e.g., \$200/\$500), both costs and the benefits associated with them should be eliminated in the analysis. That is, USEPA's assumption that dischargers will not be required to undertake improvements above a certain expense level should be carried through the entire analysis to be consistent. Alternatively, if existing requirements must be met prior to rule compliance, these costs should be estimated and reported.

Response to: CTR-035-058

EPA's economic analysis measures the potential incremental costs and benefits of the rulemaking relative to compliance with current requirements. It is not appropriate for EPA to estimate costs and benefits associated with compliance with current requirements. To the extent that costs were eliminated from the analysis, benefits (loading reductions) were also eliminated from the analysis. That is, EPA did not count benefits without counting the costs of achieving those benefits.

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Comment ID: CTR-060-018  
Comment Author: San Diego Gas and Electric  
Document Type: Electric Utility  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01a02 Cost Diff. for Eff. Limit  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: PROVISIONS SDG&E DOES NOT SUPPORT

As described in the following comments SDG&E does not support the following provisions:

Economic Analysis is deficient

Secondly, it was not clear from the analysis what monitoring data and/or effluent limits were evaluated in comparison to EPA's baseline (i.e., in-plant wastestreams or once-through cooling water or combined discharge of all wastestreams) and what specific methods of compliance modifications were used to estimate compliance costs. If the wastestream evaluated was the gross combined discharge, the estimated costs are potentially severely underestimated. Once through cooling water contains ambient concentrations of pollutants when it is drawn from the source water body. If these same pollutants are the reason why the discharge does not comply with the new criteria, and the plant would have to treat the once-through cooling water to achieve compliance, the costs would be in the hundreds of million of dollars in capital costs to construct the treatment facilities necessary to comply at each power plant.

Response to: CTR-060-018

The analysis of the two sample electric utilities (Pacific Gas and Electric, Hunter's Point and San Diego Gas and Electric, South Bay) does not indicate that ambient water used for cooling would need to be treated because of the CTR. For instance, influent monitoring reports for the Hunter's Point facility indicate that all metals were consistently reported below detection levels with the exception of zinc that was detected, however, not at concentrations of concern. EPA believes that the source of pollutants in electric utilities is low volume waste such as from lubricating and metal cleaning processes. These operations generate low flow, high concentration effluents that are discharged together with cooling waters. In cases of infrequent non-compliance, as with copper at Hunter's Point, process optimization is sufficient to ensure compliance. In cases of more severe non-compliance, waste stream separation and treatment may be recommended.

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Subject Matter Code: E-01a03 Model 1 Weaknesses

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Comment ID: CTR-035-045

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01a03 Model 1 Weaknesses

References:

Attachments? N

CROSS REFERENCES

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Comment: B. Cost Analysis p. 2-1 (U.S. EPA, 1997b) - Model I Baseline in Cost Analysis

Model I assumes that, in the absence of the CTR, the State would, pursuant to the NPDES regulations rely on the narrative standards in Basin Plans to establish numeric water quality-based effluent limits in permits. EPA thereby contends that permit limits adopted under Model I could be based on the latest EPA 304(a) criteria. Under this scenario, EPA believes that permit limits would be "nearly identical" to those that would result from implementation of the CTR criteria, and that "the costs and benefits of the CTR would be negligible since implementation of permits under the CTR would not differ significantly from how the State may implement permits under current law." We believe this to be a flawed analysis, and that EPA must delete or modify the Model I baseline. EPA's suggestion that EPA's action has no impacts is equivocal: either EPA is taking an action in proposing the rule or it is not. If it is not taking an action, then it need not propose a rule. If it is taking an action, then this action must have implications. In any case, we believe the analysis is flawed. Under federal regulations (40 CFR section 122.44(d)(iv)), in the absence of the CTR, State permit writers could utilize many more documents than just the 304(a) criteria when adopting permit limits based on narrative standards. These sources of information could easily result in effluent limits that are more or less stringent than the CTR-proposed criteria. Thus, the Model I baseline is fundamentally flawed.

Response to: CTR-035-045

See responses to CTR-035-058 and CTR-021-005c.

EPA believes that the use of 304(a) criteria provides a reasonable estimate of current regulatory requirements because the criteria represent its national recommendations. Additionally, if permit writers deviate from the criteria, they must have a basis for doing so. For example, using field data to modify the criteria on a site-specific basis would require an amendment to the rule.

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Comment ID: CTR-035-057

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01a03 Model 1 Weaknesses

References:

Attachments? N  
CROSS REFERENCES

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Comment: Weaknesses in Cost Analysis

The report's cost estimates exhibit a number of significant weaknesses, as follows:

\* The assertion that a plausible alternative baseline (i.e., "Model I ") would indicate "no impacts" from the USEPA's rule is weak:

-- Either USEPA is taking an action in proposing the rule, or it is not. If it is not taking an action, then it need not propose a rule. If it is taking an action, then this action must have implications.

-- By definition the baseline cannot be some mythical state action that would occur if USEPA did nothing. The baseline, as described further in the Rule, is current regulation, which at this point reflects no state action in this area. If and when the state issues a regulation, the USEPA Rule can be compared with the state rule to determine benefit and cost differences.

-- The color of money stays the same whether federal or state governments take action. That is, affected parties are indifferent as to who is "scored" with water quality costs.(\*5)

-- If there are potentially no costs, there are likewise potentially no benefits, an outcome which is not provided equal credence in the Analysis.

USEPA's Model I approach in this rule is the opposite of the tactic it took in proposing the 1994 State Implementation Plan (SIP) to meet air quality requirements. In Its analysis of this action USEPA provided estimates of SIP costs in the face of no state action, despite the fact that California was required to meet federal air quality standards.

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(\*5) However, whether the federal or state government is deemed responsible for rule costs may have important legal implications (e.g., different requirements for economic analyses).

Response to: CTR-035-057

See response CTR-040-026.

EPA believes that the potential benefits of the rule are reasonably similar to the potential costs. EPA also notes that, as described in the EA, the estimate of benefits may be underestimated as a result of omitted benefit categories while the estimate of costs was based on assumptions that tend to overstate costs. For example, reductions in noncancer health effects are omitted because there are currently few means of linking consumption of toxic contaminants by humans with cases of systemic effects (as opposed to cancer effects, for which dose-response curves have been estimated). Other omitted benefit categories include instream and near stream recreational activities other than fishing (e.g., boating, swimming, picnicking, and related activities). EPA believes other recreation benefits may be appreciable because these activities have been shown in empirical research to be highly valued, and even modest changes in participation or user values could lead to sizable benefits statewide. Some of these activities can be closely associated with water quality attributes (e.g., swimming) and others might increase due to their association with fishing, swimming, or other activities in which the participants might engage.

EPA recognizes that the benefits of the rule will not occur immediately, and has estimated lags in the realization of benefits. However, EPA believes that the standards established by the CTR can be achieved through point source controls and will result in attaining designated uses of the water bodies, and that the estimated benefits are illustrative of the types and potential benefits to be achieved from attaining these uses.

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Comment ID: CTR-040-026

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01a03 Model 1 Weaknesses

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: EPA's Model 1 Scenario erroneously assumes that without the CTR, implementation of the States narrative criterion "would likely result in permit limits that are nearly identical to those that would result from implementation of the CTR criteria." On the contrary, this is highly unlikely based on: (1) the Water Code requirements to consider economics in establishing objectives and adopting permits; (2) the court decision that threw out the same EPA criteria because the State failed to consider economics and other factors by the Water Code; and (3) most basin plans do not contain language that authorizes direct utilization of the criteria in implementing the narrative toxicity objective. In fact, EPA's assertion, quoted above, is contradicted a few paragraphs later: "...since the plans were revoked, permit writers no longer use the criteria contained in the plans." (see page ES-2). In fact, in the three years since the State Plans were rescinded, very few permits have been issued with limits based on EPA criteria.

Response to: CTR-040-026

EPA disagrees with the comment. EPA believes that in the absence of the CTR, implementation of the state narrative criterion would likely result in permit limits nearly identical to those that would result from implementation of the CTR criteria. While it is true that EPA acknowledged in the EA that new effluent limits are not likely to be based on the criteria contained in the old Inland Surface Waters Plan and Enclosed Bays and Estuaries Plan since these plans were withdrawn by the State, EPA has observed that, in several recently issued permits, the State has developed new effluent limits based on EPA recommended 304(a) criteria. EPA's 304(a) criteria are nearly identical to the CTR criteria. Therefore, EPA believes that its statement about the State's use of narrative criteria does not contradict itself as the commenter asserts.

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Comment ID: CTR-041-022

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01a03 Model 1 Weaknesses

References:

Attachments? N

CROSS REFERENCES

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Comment: EPA's Model 1 Scenario erroneously assumes that without the CTR, implementation of the States narrative criterion "would likely result in permit limits that are nearly identical to those that would result from implementation of the CTR criteria." On the contrary, this is highly unlikely based on: (1) the Water Code requirements to consider economics in establishing objectives and adopting permits; (2) the court decision that threw out the same EPA criteria because the State failed to consider economics and other factors by the Water Code; and (3) most basin plans do not contain language that authorizes direct utilization of the criteria in implementing the narrative toxicity objective. In fact, EPA's assertion, quoted above, is contradicted a few paragraphs later: "...since the plans were revoked, permit writers no longer use the criteria contained in the plans." (see page ES-2). In fact, in the three years since the State Plans were rescinded, very few permits have been issued with limits based on EPA criteria.

Response to: CTR-041-022

See response to CTR-040-026, CTR-035-045, CTR-035-058, and CTR-021-005c.

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Comment ID: CTR-044-017

Comment Author: City of Woodland

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01a03 Model 1 Weaknesses

References:

Attachments? N

CROSS REFERENCES

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Comment: EPA's Model 1 Scenario erroneously assumes that without the CTR, implementation of the States narrative criterion "would likely result in permit limits that are nearly identical to those that would result from implementation of the CTR criteria." On the contrary, this is highly unlikely based on: (1) the Water Code requirements to consider economics in establishing objectives and adopting permits; (2) the court decision that threw out the same EPA criteria because the State failed to consider economics and other factors by the Water Code; and (3) most basin plans do not contain language that authorizes direct utilization of the criteria in implementing the narrative toxicity objective. In fact, EPA's assertion, quoted above, is contradicted a few paragraphs later: "...since the plans were revoked, permit writers no longer use the criteria contained in the plans." (see page ES-2). In fact, in the three years since the State Plans were rescinded, very few permits have been issued with limits based on EPA criteria.

Response to: CTR-044-017

See responses to CTR-040-026 and CTR-035-045.

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Comment ID: CTR-054-021  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01a03 Model 1 Weaknesses  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: EPA's Model 1 Scenario erroneously assumes that without the CTR, implementation of the States narrative criterion "would likely result in permit limits that are nearly identical to those that would result from implementation of the CTR criteria." On the contrary, this is highly unlikely based on: (1) the Water Code requirements to consider economics in establishing objectives and adopting permits; (2) the court decision that threw out the same EPA criteria because the State failed to consider economics and other factors by the Water Code; and (3) most basin plans do not contain language that authorizes direct utilization of the criteria in implementing the narrative toxicity objective. In fact, EPA's assertion, quoted above, is contradicted a few paragraphs later: "...since the plans were revoked, permit writers no longer use the criteria contained in the plans." (see page ES-2). In fact, in the three years since the State Plans were rescinded, very few permits have been issued with limits based on EPA criteria.

Response to: CTR-054-021

See response to CTR-040-026.

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Subject Matter Code: E-01b Cost Triggers

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Comment ID: CTR-021-017

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: E-01b Cost Triggers

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

#### CROSS REFERENCES

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Comment: Several fundamental problems exist with the analysis that was conducted in Section 2 "Methodology" of the "Analysis of Potential Costs Related to the Implementation of the California Water Quality Toxics Rule" document. Given flaws in the methodology, the results presented in Appendices I-B, II-B, and IIIB are misleading at best and in some cases incorrect. The following is a summary our comments regarding the methodology used and the results presented.

#### METHODOLOGY

\* Page 2- 10 states: "For any pollutant for which a limit for a toxic pollutant existed in the current NPDES permit for a sample facility, it was assumed that a reasonable potential existed to exceed a CTR based limit and the pollutant was included for further analysis." This is an unreasonable assumption because many local regulators have been resistant to exclude pollutants with no reasonable potential to exceed the permit limit from NPDES permits. In other words, it is very common to find pollutants regulated in NPDES permits which either have not been detected or have been detected in levels significantly below the permit limits. Therefore, assuming that a reasonable potential to exceed the permit limit exists simply because a toxic pollutant is listed in the NPDES permit, is an incorrect assumption. Further, the propagation of this error leads to incorrect economic implications.

Based on the TSD and properly computed effluent limits, a reasonable potential analysis first needs to be conducted for each toxic pollutant to determine a maximum projected effluent quality, and that value then needs to be compared to the CTR based limit to determine if there is a reasonable potential for the limit to be exceeded. If there is a potential for the limit to be exceeded, economic estimates may then be made. In the analysis that was conducted, a reasonable potential to exceed the effluent limit was assumed for each constituent with an effluent limit in the NPDES permit, and potential costs were computed based on the difference between the current and future effluent limits regardless of plant performance. Clearly, this is a flawed, incorrect, and misleading approach,

\* WLA<sub>a</sub> and WLA<sub>c</sub> are based on theoretical partitioning factors. These may or may not be representative of the conditions noted in site specific water bodies. A translator study, conducted specifically for the City of Sunnyvale demonstrates that the relationship between the partition if coefficient and TSS is not nearly as strong as that between the translator and ln(TSS) (the natural logarithm of TSS). WLA would be better computed using a site specific translator, wherever data are available. City of Sunnyvale calculations following guidance described in EPA 823-B-96-007 (The Metals Translator: Guidance for Calculating a total Recoverable Permit Limit from a Dissolved Criterion), demonstrate that significantly different results may be obtained from those presented in Exhibit 2-8 when site specific data are used;

\* Another variable which significantly affects the values used to convert from dissolved criteria to total criteria is TSS. The TSS value used to compute the partitioning factor found in Exhibit 2-8 is 15 mg/L, which is lower than any data observed by the City of Sunnyvale between September 1989 and February 1991. Those data indicate that a more representative although still conservative value would be approximately 35 mg/L;

\* Summary statistics of the dataset used are needed for each constituent (mean, standard deviation, and coefficient of variation). Further, the full datasets used for the analysis should be included as an appendix so that data trends may be inspected. Typically, as was the case with Sunnyvale but ignored in this analysis, metals concentrations decreased as source control measures have been implemented.

\* Identification and exclusion of statistical outliers from the analysis is a critical step which is not addressed in Section 2 "Methodology". Since, the reasonable potential analysis estimates the projected maximum concentration for each constituent on the maximum observed value in the given dataset, identification and exclusion of outliers from the analyses must be considered.

\* Table I-B-4 (and II-B-4, and III-B-4) should show the following columns: Reasonable Potential Analysis Projected Maximum Concentration; CTR based WQBEL; Flag; Maximum Observed Concentration; Flag. This structure would make the analyses much clearer. The determination of constituents of potential concern should then be conducted as follows: compute the projected maximum projected concentration for each pollutant, compute conservative estimates of CTR based limits (based on standard translators and TSS values), and compare the CTR based limit to the projected maximum reasonable potential value and the maximum observed concentrations. Constituents of potential concern will be those whose projected maximum concentrations are greater than the CTR based WQBEL.

Further, it needs to be noted that care must be taken to compare the projected maximum concentration with the correct (MDL or AML) CTR limit to determine if a reasonable potential exists to exceed the limit. This will primarily be a function of monitoring frequency. However, it appears that this step was overlooked in the preliminary analyses presented in Appendices I-B, II-B, and III-B. The analyses in those appendices (refer to Table I-B-4) compares the existing limit ("existing high end") to the CTR average monthly limit ("CTR"), and then bases economic extrapolation on that comparison. For example, the current daily limit for silver, 2.3 mg/L is compared to the computed average monthly CTR limit of 1.76 mg/L, and the conclusion is drawn that the City will need to decrease the amount of silver in the effluent. A more reasonable comparison would have been to compare the projected maximum concentration to the proposed CTR daily maximum limit.

\* LTAs were computed using the 95%ile for chronic WLAs and the 99%ile for acute WLAs, without an explanation for the apparent disparity. Since in many cases the chronic WLA is lower than the acute WLA, the resultant CTR derived permit limits are based on the 95%ile rather than the 99%ile (e.g. a lower limit than would have been obtained if the 99%ile values were used). In order to determine if a reasonable potential exists for a pollutant to exceed a given permit limitation, consistency is necessary. It is suggested that all computations (reasonable potential analysis and CTR based WQBEL) be based on the same standard, so that the implications of the ensuing comparisons are clear. Further, a 99%ile standard is recommended to more fully account for the lognormal nature of pollutant concentrations in treated water.

\* It is stated that "Costs were estimated for any pollutant for which either effluent concentrations or existing permit limitations were greater than the CTR-based WQBEL". As noted above, this analysis should be conducted only on pollutants with a reasonable potential to exceed the CTR-based WQBEL

otherwise economic computations will solely be based on the difference between old and new limits without any consideration to plant performance.

\* Finally, high end scenario costs are "Based on the difference between an existing permit limit and the WQBELS". It cannot be overemphasized this is unreasonable, because there may be no reasonable potential to exceed this limit. This methodology implies that simply because an effluent limit is in an NPDES permit, a reasonable potential exists to exceed that limit, which is fundamentally incorrect.

Response to: CTR-021-017

\* EPA disagrees with Sunnyvale's comment that it is unreasonable to assume that reasonable potential exists for a pollutant when it has a permit limit in its existing NPDES permit. First, EPA determines whether there is reasonable potential to exceed water quality criteria, not permit limits. Second, EPA acknowledges that the Regional Boards may base the decision to assign reasonable potential on methodologies other than those selected from the Technical Support Document for Water Quality-based Toxics Control (U.S. EPA, 1991). For example, EPA is aware that current permitting practices of some Regional Boards in the State of California include assigning permit limits to pollutants identified in the fish tissue report or pollutants included in the 303(d) list of impaired receiving water bodies. EPA incorporated the presumptions of these particular methodologies by assigning reasonable potential in the high scenario when a permit limit exists.

\* Sunnyvale stated that EPA incorrectly based high scenario costs on the difference between an existing permit limit and the CTR-based effluent limit when there may be no reasonable potential to exceed the limit. EPA stands by its methodology to assign reasonable potential in the high scenario because of the existence of a permit limit (see above). EPA's methodology would, if anything, overstate potential compliance costs in the high scenario because it assumes that the discharger discharges the pollutant at concentrations of concern and that measures may need to be taken to control the pollutant. That is, EPA's methodology may result in estimates of compliance costs that will not be incurred.

\* Sunnyvale also indicated that in the draft analysis, potential costs were computed based on the difference between the current and future effluent limits, regardless of plant performance. This statement is incorrect. Where data are available, cost decisions in the high and low scenarios are based on plant performance. However, in the absence of data, EPA's methodology tends to err on the side of estimating higher costs. EPA's rationale for its cost estimates for Sunnyvale is presented in Appendix B of the Technical Support Document for the final Economic Analysis.

\* EPA agrees that site-specific translators for metals would better represent the conditions of site-specific water bodies. Therefore, EPA used site-specific translators in its final Economic Analysis whenever they were available. For example, EPA used a copper site-specific translator of 2.6 for Sunnyvale.

\* In the final Economic Analysis, EPA does not use a total suspended solids (TSS) value of 35 mg/L for Sunnyvale. EPA instead used a TSS default value of 15 mg/L, which generally provides a more stringent limit for TSS dependent pollutants than using a TSS value of 35 mg/L. Regardless, TSS does not have an effect on the costs estimated for this particular facility because the two metals with reasonable potential (copper and silver) have metals translators which are not dependent on TSS. EPA used a site-specific translator for copper (2.6) and a default translator value (2) for silver because theoretical partitioning coefficients were not available.

\* Sunnyvale requested that summary statistics of the data be presented in the analysis and that effluent

monitoring data be included as an appendix. Presently, the Technical Support Document for the Economic Analysis of the CTR does not include these data. However, the effluent data are publicly available and may be obtained from the Permit Compliance System Database (PCS).

\* The revised Economic Analysis does not have a methodology to exclude outliers from the sample during reasonable potential and permit limit derivation. As a result, effluent variability may be greater than what it would be when outliers are extracted from the data set. A greater variability is reflected in larger projected effluent qualities (i.e., greater probability of receiving reasonable potential) and more stringent effluent limits, and, therefore, may result in higher costs. Thus, using all data points for the analysis may result in more conservative (i.e., higher) cost estimates. In addition, in order to fit data to a statistical distribution and to identify outliers, a large enough sample (e.g., greater than 20 observations) is required to ensure accuracy. EPA did not have large data sets for most of the sample facilities in the analysis. Despite this, EPA did try to consider outliers and outdated data by using both a cost decision matrix and best professional judgement to estimate costs. However, because of limited data and conservative assumptions, EPA's estimates may tend to overstate cost impacts.

\* Sunnyvale proposed analyzing reasonable potential by comparing the projected effluent quality to the projected CTR-based limit. EPA considers this comparison unnecessary because, in the low scenario, EPA's estimate of reasonable potential is already based on projected effluent quality. EPA's reasonable potential approach compares projected effluent quality against water quality criteria, instead of projected CTR-based limits as recommended by Sunnyvale. Because CTR-based limits for metals are expressed as total concentrations and water quality criteria are dissolved, it is likely that Sunnyvale's methodology will result in fewer pollutants with reasonable potential and smaller costs than EPA's approach. EPA's reasonable potential methodology is based on the Technical Support Document for Water Quality-based Toxics Control (U.S. EPA, 1991) and EPA recognizes that its costing methodology may be more conservative (i.e., erring on the side of higher costs) than other methodologies that could have been used, such as the one suggested by Sunnyvale.

\* Please see response to CTR-021-012 regarding the use of the average monthly limit instead of the maximum daily limit to estimate projected compliance costs. Sunnyvale also has suggested estimating compliance costs by comparing the projected effluent quality to the projected CTR daily maximum limit. EPA does not believe that this comparison would be useful for the analysis, because, in addition to the explanation provided in the response to CTR-021-012, the Agency believes that the use of limited data and statistical procedures to determine compliance is an overly conservative approach. EPA would not use such an approach to establish compliance with water quality based limits or criteria (see CTR-040-004) and greater uncertainty would be introduced into the analysis by estimating costs based on statistically projected values rather than actually measured effluent data.

\* Sunnyvale indicated that long-term averages (LTA) were computed using a 95% probability basis for chronic waste load allocations (WLA) and a 99% probability basis for the acute WLAs. This statement is incorrect. Acute and chronic LTAs both were calculated using a 99% probability basis. The probability basis selected for the analysis is provided in Section 5.5.4, Probability Basis (page 110), of the Technical Support Document for Water Quality-based Toxics Control (U.S. EPA, 1991). As indicated in that section, when a permitting authority does not have specific guidance for selection of the probability basis, LTAs are calculated using a 99th percentile level for both chronic and acute LTAs.

\* Sunnyvale stated that since, in many cases, the chronic WLA is lower than the acute WLA, the resultant CTR-derived permit limit is based on the 95 percent probability rather than the 99% probability (i.e., a lower limit than would have been obtained if the 99% probability values were used). EPA believes that Sunnyvale has misunderstood the methodology used to derive permit limits. The average

monthly limit (AML) and the maximum daily limit (MDL) both are based on the most stringent (i.e., smaller) of the human health and the aquatic life acute and chronic LTAs. The AML is calculated by multiplying the smallest LTA times a multiplying factor that will result in a concentration that is the 95 th percentile level of a lognormal distribution with an upper bound equal to the chronic WLA. The MDL, on the other hand, is obtained by multiplying the smallest LTA times a multiplying factor that will result in a concentration that is the 99 th percentile level of a lognormal distribution and is less than the acute WLA. In other words, the MDL is greater than the AML mainly because it is calculated to be greater than 99% of the effluent concentrations while the AML is calculated to be greater than only 95% of the effluent concentrations. Refer to Table 5-2, Calculation of Permit Limits (page 103), of the Technical Support Document for Water Quality-based Toxics Control (U.S. EPA, 1991) for a list of multiplying factors at different probability levels. Note that the number of samples per month (n) is also used to calculate the AML.

\* Sunnyvale requested that all computations (i.e., multipliers) be based on the same percentile levels in order to maintain consistency. As indicated above, the revised economic analysis of the final CTR uses the 99th percentile level to calculate LTAs. In addition, maximum daily limits (MDL) are also based on the 99th percentile level. The average monthly limits (AML), however, cannot be calculated using the same percentile level because this may result in effluent limits that are not protective of water quality. In particular, when the minimum LTA is the LTA based on chronic criteria, the resulting AML would be equal to the WLA based on chronic criteria. While individual exceedances of the AML are permitted, the WLA should never be exceeded; thus an AML calculated using the same percentile level as the MDL would not ensure compliance with chronic aquatic life criteria.

\* Sunnyvale suggested that the projected effluent quality value be based on a 99% confidence level and a 99% probability basis. EPA revised its analysis to calculate projected effluent quality values using these confidence level and probability basis values.

See also responses to CTR-052-003b and CTR-092-017.

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Comment ID: CTR-034-014b  
Comment Author: SCAP  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01b Cost Triggers  
References: Letter CTR-034 incorporates by reference letter CTR-035  
Attachments? N  
CROSS REFERENCES E-01g08  
E-01e  
E-01v  
J

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Comment: \* In general, we are pleased that EPA prepared an analysis of the economic impacts of the proposed CTR, and that a major portion of EPA's work focused on determining the potential impacts on POTWs. However, we believe that this analysis is based on improper assumptions and inaccurate cost estimates, resulting in unconvincing conclusions. Detailed comments can be found in Attachment 2. A few of the areas of concern are listed below:

- \* Small facilities appear to be under represented in EPA's sample of POTWS, especially for minor dischargers.
- \* The cost triggers used as regulatory relief thresholds are unrealistic, and are not consistent with EPA regulations and policies.
- \* The assumptions used to determine cost estimates for indirect dischargers appear to omit a large proportion of potentially affected industries.
- \* The Economic Analysis does not take into account projected population and industrial growth over time, which may influence effluent quality and quantity. Statewide, the population is projected to grow by nearly 50% by 2020.
- \* The use of average cost estimates masks economic impacts on individual dischargers, which may be particularly acute for small communities.
- \* The economic Analysis ignores the costs that may be incurred by stormwater dischargers and nonpoint sources to reduce loadings so that CTR criteria may be met in ambient waters.

Response to: CTR-034-014b

See responses to CTR-032-004 CTR-035-061, CTR-021-006b, CTR-040-037, CTR-059-018, and CTR-035-048.

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Comment ID: CTR-035-047a  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01b Cost Triggers  
References:  
Attachments? N  
CROSS REFERENCES E-01m

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Comment: pp. 2-24 - 2-32 (U.S. EPA, 1997b) - Cost Triggers for Alternative Regulatory Approaches The use of the \$200 and \$500 cost thresholds significantly skewed potential costs downwards by assuming that when those cost thresholds are reached, regulatory relief options would be pursued successfully, despite the fact that dischargers have absolutely no guarantees that such options will be successful, In the Preamble, in fact, EPA indicates that options such as variances and site-specific criteria will rarely, if ever, be granted. In addition, POTW experiences to date in California suggest that it is unlikely that such options will be successful. Thus, the basic premise of the analytic approach used to determine costs needs to be reconsidered. Incidentally, we also believe that the costs attributed to such activities were seriously underestimated. Information we are familiar with suggests that many of the regulatory alternatives EPA examined can cost up to several million dollars (per pollutant) (e.g. TMDLs, UAAs). Thus, we suggest that in the future when calculating the costs for such activities, EPA should use a range where \$200,000/pollutant is the low end scenario and \$2,000,000/pollutant is the high end scenario.

Response to: CTR-035-047a

See response to CTR-032-004.

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Comment ID: CTR-040-033

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01b Cost Triggers

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that if the cost per toxic pound equivalent removed is greater than a certain threshold, the discharger would receive regulatory relief and therefore incur no treatment cost. (It is difficult to understand how EPA could rationalize basing the estimate of CTR costs on the assumption that there would be relief from the CTR if the costs were too high, especially when the CTR itself does not provide for such relief.)

Response to: CTR-040-033

See response to CTR-032-004.

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Comment ID: CTR-040-040

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01b Cost Triggers

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: EPA's cost analysis relies on an unofficial yard stick for feasibility and regulatory relief (\$200 to \$500 per toxic pound equivalent removed) that is different and considerably lower than the official yard stick for feasibility that is set forth in EPA's affordability guidelines. EPA uses its affordability guidelines in considering many forms of regulatory relief (e.g., dedsignation of uses). EPA's affordability guidelines set a much higher threshold. For example under these guidelines, reverse osmosis has shown to be affordable at several large POTWs.

Response to: CTR-040-040

See response to CTR-032-004.

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Comment ID: CTR-041-029

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01b Cost Triggers

References:

Attachments? N

CROSS REFERENCES

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that, if the cost per toxic pound equivalent removed is greater than a certain threshold, the discharger would receive regulatory relief and therefore incur no treatment cost. (It is difficult to understand how EPA could rationalize basing the estimate of CTR costs on the assumption that there would be relief from the CTR if the costs were too high, especially when the CTR itself does not provide for such relief.)

Response to: CTR-041-029

See response to CTR-032-004.

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Comment ID: CTR-041-036

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01b Cost Triggers

References:

Attachments? N

CROSS REFERENCES

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Comment: EPA's cost analysis relies on an unofficial yard stick for feasibility and regulatory relief (\$200 to \$500 per toxic pound equivalent removed) that is different and considerably lower than the official yard stick for feasibility that is set forth in EPA's affordability guidelines. EPA uses its affordability guidelines in considering many forms of regulatory relief (e.g., dedsignation of uses). EPA's affordability guidelines set a much higher threshold. For example under these guidelines, reverse osmosis has shown to be affordable at several large POTWs.

Response to: CTR-041-036

See response to CTR-032-004.

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Comment ID: CTR-044-024  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01b Cost Triggers  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that, if the cost per toxic pound equivalent removed is greater than a certain threshold, the discharger would receive regulatory relief and therefore incur no treatment cost. (It is difficult to understand how EPA could rationalize basing the estimate of CTR costs on the assumption that there would be relief from the CTR if the costs were too high, especially when the CTR itself does not provide for such relief.)

Response to: CTR-044-024

See response to CTR-032-004.

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Comment ID: CTR-044-031  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01b Cost Triggers  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: EPA's cost analysis relies on an unofficial yard stick for feasibility and regulatory relief (\$200 to \$500 per toxic pound equivalent removed) that is different and considerably lower than the official yard stick for feasibility that is set forth in EPA's affordability guidelines. EPA uses its affordability guidelines in considering many forms of regulatory relief (e.g., dedsignation of uses). EPA's affordability guidelines set a much higher threshold. For example under these guidelines, reverse osmosis has shown to be affordable at several large POTWs.

Response to: CTR-044-031

See responses to CTR-032-004 and CTR-045-012b.

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Comment ID: CTR-054-028  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01b Cost Triggers  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that, if the cost per toxic pound equivalent removed is greater than a certain threshold, the discharger would receive regulatory relief and therefore incur no treatment cost. (It is difficult to understand how EPA could rationalize basing the estimate of CTR costs on the assumption that there would be relief from the CTR if the costs were too high, especially when the CTR itself does not provide for such relief.)

Response to: CTR-054-028

See response to CTR-032-004.

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Comment ID: CTR-054-035  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01b Cost Triggers  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: EPA's cost analysis relies on an unofficial yard stick for feasibility and regulatory relief (\$200 to \$500 per toxic pound equivalent removed) that is different and considerably lower than the official yard stick for feasibility that is set forth in EPA's affordability guidelines. EPA uses its affordability guidelines in considering many forms of regulatory relief (e.g., dedsignation of uses). EPA's affordability guidelines set a much higher threshold. For example under these guidelines, reverse osmosis has shown to be affordable at several large POTWs.

Response to: CTR-054-035

See response to CTR-032-004.

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Comment ID: CTR-056-018

Comment Author: East Bay Municipal Util. Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: E-01b Cost Triggers

References: Letter CTR-056 incorporates by reference letter CTR-054

Attachments? N

CROSS REFERENCES

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Comment: Finally, EBMUD has serious concerns about the accuracy of EPA's draft, Economic Analysis, particularly as it pertains to the cost and benefits estimates found in the draft CTR. We believe that the costs of the CTR are significantly underestimated and the benefits are inflated. On the cost side, there are several "flaws" which should be reevaluated:

\* The use of assumptions which would tend to underestimate cost.

Response to: CTR-056-018

Based in part on the comments received by EPA on the costs estimated for the proposed CTR, EPA collected new data and information for each of the sample facilities. As a result, EPA revised its estimates of costs and benefits for the final CTR.

A direct comparison of the monetized annual (steady-state) benefits of the CTR and annualized costs shows benefits and costs to be generally commensurate given the uncertainty in the analysis and that several categories of benefits are unmonetized. The low estimate of monetized benefits is \$8.7 million per year and the high estimate is \$40.8 million per year. Annualized costs are \$33.5 million under the low scenario and \$61.9 million under the high scenario.

Discounted benefits are lower than discounted costs. However, the assumption that capital is replaced every 10 years likely overstates costs. At the same time, benefits may be understated because some categories are not monetized and full benefits may be realized sooner than 10 or 20 years. Thus, EPA expects that the present value of benefits and costs is more commensurate than shown.

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Comment ID: CTR-056-019

Comment Author: East Bay Municipal Util. Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: E-01b Cost Triggers

References: Letter CTR-056 incorporates by reference letter CTR-054

Attachments? N

**CROSS REFERENCES**

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Comment: Finally, EBMUD has serious concerns about the accuracy of EPA's draft, Economic Analysis, particularly as it pertains to the cost and benefits estimates found in the draft CTR. We believe that the costs of the CTR are significantly underestimated and the benefits are inflated. On the cost side, there are several "flaws" which should be reevaluated:

\* Assuming that regulatory relief measures will be granted, despite the fact that they are not automatically granted through triggers included as part of the proposed CTR, and using this as the basis for removing costs which exceed threshold values.

Response to: CTR-056-019

See response to CTR-032-004.

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Comment ID: CTR-059-019

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01b Cost Triggers

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

**CROSS REFERENCES**

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Comment: Economic Analysis

The Sanitation Districts commends EPA for preparing an analysis of the economic impacts of the proposed CTR, and for selecting POTWs for half of the case studies. We believe that EPA is correct in thinking that POTWs are likely to experience major impacts as a result of the promulgation of the CTR. However, we believe that this analysis is based on improper assumptions and inaccurate cost estimates, resulting in unconvincing conclusions. Our own attainability and cost analysis indicates that there are indeed fundamental flaws in the cost analysis. A few of the areas of concern are listed below:

\* The cost triggers used as regulatory relief thresholds are unrealistic, and are not consistent with EPA regulations and policies.

Response to: CTR-059-019

See response to CTR-032-004.

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Comment ID: CTR-082-007b

Comment Author: City of Burbank

Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: E-01b Cost Triggers  
References:  
Attachments? N  
CROSS REFERENCES E-01g08

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Comment: The subject rule has a significant impact on our facility discharge and the citizens of the City. We therefore present the following comments for your consideration to re-open the comment period for this rule in order to facilitate a more complete review by public and in particular by those in the POTW community:

\* The draft economic analysis seems to have serious flaws. It under-estimates the cost of the draft CTR and overstates the benefits. In the cost analysis USEPA should re-evaluate the representativeness of samples used and the omission of impacts on many factors that contribute to loadings, and hence, can be expected to have to reduce their loadings (e.g., small indirect dischargers, municipal and industrial stormwater dischargers, agricultural activities, and other nonpoint sources); the incorporation of numerous assumptions that underestimate costs, and the assumption to artificially remove costs that exceed threshold values by assuming that regulatory relief measures will be granted, despite the fact that they are not automatically granted through triggers included as part of the proposed regulation.

Response to: CTR-082-007b

See response to CTR-032-004.

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Subject Matter Code: E-01b01 RegRelief Above Threshold

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Comment ID: CTR-066-013b  
Comment Author: Delta Diablo Sanitation Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01b01 RegRelief Above Threshold  
References:  
Attachments? N  
CROSS REFERENCES E-01g08

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Comment: The areas with which we find concerns and the requested changes include the following:

\* The draft Economic Analysis has, from our short review, some serious flaws. It underestimates the costs of the draft to implement the CTR and overestimates the benefits. For the cost analysis, EPA should re-evaluate the representativeness of the sample used; the omission of impacts on many sectors that contribute to loadings and, therefore, can be expected to have to reduce their loadings (e.g., small indirect dischargers, municipal and industrial stormwater dischargers, agricultural activities, and other nonpoint sources); the incorporation of numerous assumptions that underestimate costs; and your assumption that artificially removes costs that exceed threshold values by assuming that regulatory relief measures will be granted, despite the fact that they are not automatically granted through triggers included as part of the proposed regulation.

Response to: CTR-066-013b

See response to CTR-032-004.

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Comment ID: CTR-085-016b  
Comment Author: Camarillo Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: E-01b01 RegRelief Above Threshold  
References:  
Attachments? N  
CROSS REFERENCES E-01g08

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Comment: The District supports the following positions of CASA and SCAP where changes need to be made in the proposed California Toxics Rule:

\* The District agrees with CASA and SCAP that the economic analysis has serious flaws. It underestimates the costs of the draft California Toxics Rule and overestimates the benefits. For the cost analysis, the EPA should evaluate the representativeness of the sample used; the omission of impacts on many sectors that contribute to loadings and hence, can be expected to reduce their loadings (i.e., small

indirect dischargers, municipal and industrial stormwater dischargers, agricultural activities and other non-point sources); the incorporation of numerous assumptions that under estimates the costs; and the assumption to artificially remove costs that exceed threshold values by assuming that regulatory relief measures will be granted, despite the fact that they are not automatically granted through triggers included as part of the proposed regulation.

Response to: CTR-085-016b

See response to CTR-032-004.

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Comment ID: CTR-092-022b

Comment Author: City of San Jose, California

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01b01 RegRelief Above Threshold

References: Letter CTR-092 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES E-01c

E-01y

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Comment: Comment #6: General Cost Analysis Concerns

The City of San Jose has several generalized concerns about the costs utilized in the Economic Analysis, which raise questions regarding the validity of that analysis, as follows:

Q.6-1) We believe the real point of undertaking the CTR is to assure water quality throughout State that protects beneficial uses. How can the existing Economic Analysis be sufficient if it does not address the cost of meeting the CTR standards from all sources of discharge? Especially given the amount and cost of aggressive intervention in reducing point source pollution undertaken in California to date?

Q.6-2) Throughout the text of the CTR and within the Economic Analysis, EPA refers repeatedly to the assumption that the State will provide regulatory relief to mitigate severe cost impacts engendered by the CTR. What happens to EPA's cost benefit analysis if even one of those assumptions of regulatory relief is not implemented by the State? While we support EPA's attempt to indicate available regulatory options for the State, local level governments and POTW's have little past experience on which to rationalize acceptance of such assumptions.

Q.6-3) EPA has not estimated the cost to local governments/POTW's/indirect dischargers of securing regulatory relief, nor has that cost been incorporated into the estimate of the CTR impact. How would EPA estimate the cost of securing regulatory relief and how would that additional cost affect the Economic Analysis? Especially since very costly studies may be required in order to qualify for regulatory relief.

Q.6-4) The preamble to the CTR discusses the linkage between the CTR and the National Toxics Rule, and EPA's intent to create a level playing field by setting the CTR standards within the National Toxics Rule Framework. There does not seem to have been a similar attempt to analytically level the playing

field vis a vis implementation costs, however, as no indexing or calibration has been undertaken to account for the cumulative costs of efforts to date (see also Q. 4-3), cost equivalency data is rooted in experience outside California, and simple average costs are used to represent widely variable ranges. How would the CTR cost/benefit relationship be affected by adjusting for California's significant previous efforts on water quality control mechanisms and California cost data?

Response to: CTR-092-022b

See responses to CTR-032-004, CTR-060-019, CTR-004-003, CTR-035-048, and CTR-092-022a.

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Comment ID: CTR-021-005c  
Comment Author: LeBoeuf, Lamb, Green & MacRae  
Document Type: Local Government  
State of Origin: CA  
Represented Org: City of Sunnyvale  
Document Date: 09/25/97  
Subject Matter Code: E-01c Executive Order 12866  
References: Letter CTR-021 incorporates by reference letter CTR-035  
Attachments? Y

CROSS REFERENCES C-13

C-28

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Comment: It is with a sense of reluctance that Sunnyvale joins in CASA/Tri-TAC's adverse comments on the CTR and the EA, and Sunnyvale does so in a spirit of constructive criticism and with an expectation that the Agency will make the necessary adjustments in its approach towards the CTR before the final rule is promulgated. In addition, in the same spirit and with the same expectation, Sunnyvale would like to make the following points on its own behalf:

2. Obligation to Assess Alternative Cancer Risk Levels for Human Health-Based Criteria. Sunnyvale is gravely concerned that EPA has used the wrong approach in proposing to establish human health criteria for organic pollutants, particularly those pollutants for which the proposed criteria are below the method level of detection ("MDL"). Sunnyvale recommends that EPA should thoroughly assess all of the potential impacts, including costs and benefits, of the 10E-4 and 10E-5 risk levels before proposing the human health-based criteria. As pointed out in the EOA Letter, there is a significant potential for advancing technology to lower the MDL for many pollutants to the point where laboratory equipment is able to measure some or all of the organic compounds for which EPA is proposing to establish criteria at the new level. It is intuitively obvious that the costs of attaining criteria set at the 10E-6 level will be significantly greater than attainment of a 10E-5 or 10E-4 level, particularly where, as pointed out in the EOA Letter, the only available method of treatment is granular activated carbon. Sunnyvale is concerned that the EA does not adequately address the potential for these costs, and, consequently, does not take these potential costs into account in determining whether to exercise its flexibility in choosing whether to use a 10-4 , 10-5 or 10-6 cancer risk level as the basis for its CTR promulgation.

EPA is required by Executive Order 12866, the Regulatory Flexibility Act and the Unfunded Mandates Reform Act to identify and analyze alternatives to a proposed rule. We cannot understand, therefore, why EPA has done such a cursory analysis in the preamble to the CTR and the EA of the alternatives to the use of the most stringent (10E-6) risk level for establishing criteria for human health effects of pollutants, particularly organic pollutants. EPA cannot base its selection of the 10E-6 level based upon previous regulatory pronouncements by the State of California. Any new determination by the State will be subject to the analytical requirements of Section 13241 of the Porter-Cologne Act and by review by the Office of Administrative Law. Thus, it is not a foregone conclusion that the State will ultimately select the 10E-6 level. EPA has its own legal requirements to fulfill. Accordingly, we ask that EPA not promulgate the final human health criteria for the pollutants of concern unless and until it has adequately analyzed the costs and other implications of the various alternatives to the 10E-6 level.

In conclusion, we are entirely supportive of many of EPA's innovative approaches towards development of the CTR, particularly as regards the toxic metals. However, we believe that EPA has needlessly failed to comply with many of its legal obligations, particularly as regards the development of human health-based criteria on cancer risk levels of organic pollutants. We urge the Agency to reconsider its position in the matters covered by this letter (as amplified by the EOA Letter) and the CASA/Tri-TAC letter. Sunnyvale pledges its continued participation in place-based watershed management planning in the South Bay, its cooperation with the Agency in making a success of the WPI, and to an ongoing effort by the Agency and others to reach water quality goals in the South Bay. We thank you for the opportunity to comment on the proposed CTR.

Response to: CTR-021-005c

With respect to the Regulatory Flexibility Act (RFA), and as stated in the preamble to the proposed and final rules, the RFA requires agencies to assess the economic impact of a rule only on small entities that are subject to the requirements of the rule. Today's rule does not impose any impacts on small entities.

Under the CWA, states have the primary responsibility for implementing water quality standards. [See e.g., *Scott v. City of Hammond, Ind.*, 741 F.2d 992, 994 (7th Cir. 1984).] Unlike technology-based effluent limitations guidelines which are required to be implemented into NPDES permits, 40 CFR 122.44(a), and for which EPA conducts regulatory flexibility analyses if the RFA standard is met, states have considerable discretion in developing effluent limits for point sources as necessary to meet water quality standards.

Water quality standards consist of three elements: designated uses, which establish water quality goals for water bodies in the State (which may take into account economic considerations), water quality criteria sufficient to protect those uses (based on science without regard to cost), and an antidegradation policy to maintain water quality. 40 CFR 131.6. Water quality criteria are ambient levels or concentrations or narrative statements representing conditions necessary to protect a designated use. 40 CFR 131.3(b). Once EPA establishes water quality criteria, the end to be achieved, the State has considerable flexibility in determining the means to achieve those ends in NPDES permits, TMDLs and other water quality programs. This flexibility means that while the State's implementation of federally-promulgated water quality criteria may result in new or revised discharge limits being placed on small entities, the criteria themselves apply to water bodies, not to any dischargers, including small entities.

In issuing a permit limit, there are various mechanisms a state may use including: mixing zones, pollutant loading allocations, effluent trading, and water-effect ratios. The State also has the ability to adopt variances, designated use reclassification, and site-specific criteria if appropriate and necessary. Each of these authorities may be applied by the State when it issues an NPDES permit. In addition, the State may have authority to control water quality in other ways independent of the CWA NPDES program, such as establishing controls over non-point sources, water quantity, zoning, best management practices (such as tree planting to lower temperature and runoff or fish ladders to improve fish spawning). These mechanisms, if successful, may affect the need for or substance of a water-quality based effluent limit. Thus, because it is the State that issues the permit and because the State in implementing the criteria may apply any or all of the above authorities, these criteria alone, in and of themselves, do not impact any small entity.

Consistent with this statutorily-mandated division of responsibilities between the states and the federal government under the CWA, EPA in the CTR has set state-wide ambient criteria for toxic pollutants, but has left to the State the primary responsibility for determining how to regulate point source dischargers

and non-point source dischargers to meet the standards. Thus, EPA's certification of the CTR under section 605(b) of the RFA is consistent with (and a direct consequence of) the design of the CWA.

Further, attempting to apply the RFA analysis to water quality criteria setting does not make sense. Most importantly, this is because water quality criteria apply to the waterbody and must protect the designated use. As such, tailoring water quality criteria to vary depending on the size of a discharging entity is not possible. See Response to Comment CTR 042-007a. Also, because water quality criteria do not apply to small entities, and because states are free to adopt whatever mix of control measures they deem necessary, it is unclear to what extent states will seek discharge reductions from small entities. Finally, the water quality criteria themselves contain no regulatory or informational requirements applicable to small entities and thus cannot be tailored to fit the scale of those entities.

EPA recognizes that it has undertaken an economic analysis pursuant to E.O. 12866 for this rule. This analysis, however, makes numerous assumptions and does not necessarily predict how the state will implement the criteria. Thus, the economic analysis represents EPA's best estimate of the costs of the rule and given the broad flexibility the state has in implementing the criteria, the costs may even be lower. In addition to this analysis, EPA did an analysis of state and local implementation procedures that may have an impact on NPDES permit holders and indirect dischargers, entitled Implementation Analysis of Ambient Water Quality Criteria for Priority Toxic Pollutants in California. These analyses constitute an analysis equivalent to a regulatory flexibility analysis.

EPA believes that CTR criteria by themselves do not directly impose economic impacts. As a result, EPA believes that the rule is not significant within the meaning of Executive Order 12866. Criteria are one of three parts of a water quality standard. A water quality standard is comprised of: a criterion, a designated use, and an antidegradation requirement. The CTR promulgates criteria for priority toxic pollutants. When these criteria are combined with State adopted designated uses and antidegradation requirements, water quality standards will be created. When the State implements these water quality standards, costs may be imposed based on many yet unknown factors including the community's decision that such costs are reasonable and appropriate to protect designated uses. Nevertheless, in the spirit of the intent of E.O. 12866, EPA prepared the EA which looks at the potential costs and benefits of the State's implementation of the resulting water quality standards based on the CTR criteria into the NPDES permit program.

EPA disagrees with the commenter's assertion that EPA may not have complied with Executive Order 12866. EPA fully complied with Section 6(a)(3)(a) of the Executive Order which requires each agency to provide OMB with a list of its planned regulatory actions, indicating those which the agency believes are significant regulatory actions.

EPA categorized the CTR as "not significant" and submitted to OMB, a draft copy of the proposed CTR along with a draft economic analysis. After review of this material, OMB agreed with EPA's determination that the proposed rule was not significant within the meaning of the Executive Order, and waived its 90-day review period for the proposed CTR. EPA performed an economic analysis even though this type of analysis is only required for significant regulatory actions within the scope of section (3)(f)(1) of the Executive Order. Therefore, even though EPA categorized the proposed CTR as "not significant", EPA fulfilled the Executive Order requirements as if it were a significant rule.

For further discussion of how today's rule complies with Executive Order 12866, the Unfunded Mandates Act, and the Regulatory Flexibility Act, see the preamble to the final rule and EPA's economic analysis of the final rule.

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Comment ID: CTR-021-006b  
Comment Author: LeBoeuf, Lamb, Green & MacRae  
Document Type: Local Government  
State of Origin: CA  
Represented Org: City of Sunnyvale  
Document Date: 09/25/97  
Subject Matter Code: E-01c Executive Order 12866  
References: Letter CTR-021 incorporates by reference letter CTR-035  
Attachments? Y  
CROSS REFERENCES J

R  
S  
I-01

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Comment: It is with a sense of reluctance that Sunnyvale joins in CASA/Tri-TAC's adverse comments on the CTR and the EA, and Sunnyvale does so in a spirit of constructive criticism and with an expectation that the Agency will make the necessary adjustments in its approach towards the CTR before the final rule is promulgated. In addition, in the same spirit and with the same expectation, Sunnyvale would like to make the following points on its own behalf:

3. Failure to Address Important Stormwater-Related Issues. In addition to its POTW, Sunnyvale is the owner of a system of storm drains which contribute wet weather flows to the South Bay. We are concerned that the EA entirely neglects the potential impacts of the proposed CTR on the storm drains. The EA entirely omits any meaningful analysis of the costs of bringing storm drains into compliance with the proposed CTR, thereby significantly understating the overall costs of the CTR. We believe that this omission is violative of the Agency's legal obligations under the authorities cited in the preceding paragraph.

In addition, we join in the comments being filed by the various other operators of stormwater collection systems to the effect that EPA has overstated the legal requirements for storm drains to comply with numerical criteria.

Response to: CTR-021-006b

EPA did not include benefits or costs of controlling nonpoint sources or storm water dischargers in its estimates of benefits and costs of the CTR. EPA believes that the final rule will not have a direct effect on sources not permitted under the NPDES program (e.g., nonpoint sources) or NPDES sources not typically subject to numeric water quality-based effluent limits (e.g., wet weather discharges) beyond those already being implemented under current state programs. The CTR language allows (consistent with EPA's policy) the practice of applying maximum extent practicable (MEP) to MS4 permits, along with BMPs as effluent limits to meet water quality standards where infeasible or insufficient information exists to develop water quality-based effluent limits. Any potential indirect effect on nonpoint sources and wet weather discharges, such as runoff from farms, urban areas, and abandoned mines, and contaminated sediment, is unknown at this time. Many of the programs developed to control nonpoint sources and wet weather discharges are already in place in the State of California. Costs due to these programs have already been incurred or will soon be incurred owing to existing federal, State, and local environmental programs. EPA evaluated the comments and analyses submitted by commenters providing costs for controlling nonpoint sources and none of these comments provided a definitive argument that

storm water dischargers cannot achieve compliance with the proposed water quality criteria or that compliance would result in widespread economic impact or hardship.

EPA also acknowledges that nonpoint sources and wet weather discharges are technically difficult to model and evaluate costs because they are intermittent and highly variable. Nonpoint source and wet weather discharges also occur under different hydrologic or climatic conditions than continuous discharges from industrial and municipal facilities, which are evaluated under critical low flow or drought conditions. Thus, evaluating agricultural nonpoint source discharges and storm water discharges and their effects on the environment is highly site-specific and data intensive.

See also response to CTR-040-004.

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Comment ID: CTR-031-006c

Comment Author: Fresno Metro. Flood Ctrl Dist.

Document Type: Flood Ctrl. District

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01c Executive Order 12866

References: Letter CTR-031 incorporates by reference letter CTR-027

Attachments? N

CROSS REFERENCES J

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Comment: b. If the CTR as proposed in the current draft is applied to municipal storm water dischargers so as to require numeric effluent limitations in municipal stormwater permits, the cost to the public will be phenomenal. In the economic analysis of the CTR, EPA failed to consider these costs, and failed to consider the costs to industrial storm water dischargers as well.

The District Is urban storm water drainage system captures through retention 90% of its annual average runoff, and discharges 90% after detention (1% is directly discharged without treatment). The system cost in 1997 dollars is estimated at \$500 million.

The only option available to the District to mitigate violations of the proposed criteria would be to expand system storage to capture 100% of average annual runoff. Increasing system storage by 20,000 acre feet (estimated additional storage required for average years), at the current cost of \$11,000-\$20,000 per acre foot of storage, would result in a capital expenditure of \$220,000,000 to \$400,000,000.

Even with this exorbitant investment, in approximately half of the rain seasons storage would be exceeded, and 100% of the discharges would be expected to exceed the dissolved metals criteria noted above.

Smaller cities (under 50,000) in California are currently subject to NPDES municipal storm water discharge permits, and many more will be included upon implementation of the Stormwater Phase II program. EPA's failure to assess economic impacts on small cities would appear to be contrary to the requirements of the Federal Regulatory Flexibility Act.

The District includes in its constituency industrial businesses. The District serves these businesses and

assists in the oversight of their pollution prevention and storm water permit compliance efforts. Regardless of EPA's approach to applying the CTR to municipal storm water permits, industrial storm water dischargers are directly and seriously affected by application of the CTR. EPA's failure to assess these economic impacts on our communities is short-sighted and a breach of good public policy.

Response to: CTR-031-006c

See responses to CTR-021-006b and CTR-040-026. For discussion of the applicability of the Regulatory Flexibility Act to this rule, see the preamble to the final rule.

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Comment ID: CTR-035-008f

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01c Executive Order 12866

References:

Attachments? N

CROSS REFERENCES E-01g08

E-01e

E-01d

E-01m

E-01h

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Comment: Finally, we have serious concerns about the accuracy of the draft Economic Analysis and the estimates of the costs and benefits of the draft CTR (see detailed comments in Attachments I and 2). Our primary concerns related to the cost analysis include 1) that the case studies on which the cost analysis is based do not adequately represent the actual population of POTWs in California; 2) the omission of costs that could be incurred by many sectors that contribute to overall loadings, and, hence, can be expected to have to reduce their loadings (e.g., non-SIU indirect dischargers, municipal and industrial stormwater dischargers, agricultural activities, and other nonpoint sources of CTR-regulated pollutants); 3) the use of numerous assumptions that underestimate costs; and 4) the capricious removal of costs that exceed threshold values by assuming that regulatory relief measures will be granted, despite the lack of any proposed regulatory relief trigger in the proposed regulation.

To illustrate the degree of underestimation of costs for the POTW sector alone, we looked at potential compliance costs for the POTW sector. We found that the potential costs for 23 major POTWS. on an annualized basis, may reach \$400 million. We believe that this analysis demonstrates that the potential cost consequences of compliance with effluent limits based on the proposed CTR criteria would easily exceed the \$ 100 million annual cost threshold, especially when the costs of all 313 POTWs in the State are estimated. Thus, we believe that EPA must conclude that the proposed CTR could have significant economic impacts on local governments.

Response to: CTR-035-008f

See response to CTR-021-005c, CTR-032-004, CTR-040-039, CTR-021-006b, CTR-040-037, and CTR-059-018.

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Comment ID: CTR-035-010  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01c Executive Order 12866  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: In summary, we believe that, contrary to EPA's conclusion, the proposed regulation is a significant regulatory action pursuant to Executive Order 12866 and the Unfunded Mandates Reform Act. The CTR may well impose costs that exceed \$100 million per year on the regulated community, the majority of which are local public agencies, and this will have a significant impact on local governments. By another measure, by promulgating 190 new criteria for California (for about 70 different pollutants), of which 70 (37%) have been recalculated, modified, or added by EPA since the 1992 promulgation of the National Toxics Rule, the CTR certainly is a "significant regulatory action,"(\*1) Further, the Agency fails to make a "reasoned determination that the benefits of the intended regulation justify its costs," as required by Executive Order 12866 or a determination that the Agency selected "the least costly, most cost-effective or least burdensome alternative" as required under the Unfunded Mandates Reform Act. Hence, in our estimation, EPA must completely overhaul the Economic Analysis, and it must be reviewed by the Office of Management and Budget because the CTR is a significant regulatory action.

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(\*1) These numbers include aquatic life and human health criteria that were promulgated for California in the 1992 NTR but which have been modified or recalculated and are being repropose in the CTR.

Response to: CTR-035-010

See response to CTR-021-005c.

For a discussion of the Agency's compliance with UMRA and Executive Order (EO) 12866, see the preamble to the final rule. Although EPA was not required to conduct a regulatory impact assessment, EPA chose to conduct one. EPA believes that its analysis has shown that the benefits of the rule justify the costs. However, under the Clean Water Act, water quality criteria are not established based on costs but are based on sound science to protect designated uses of the waters. Further, such criteria are to be based on EPA's section 304(a) criteria recommendations, EPA's 304(a) criteria recommendations modified to reflect site-specific conditions, or other scientifically defensible methods. From the outset of the national water quality standards program, EPA has explained that while economic factors may be considered in designating uses, scientific and technical factors must justify criteria to meet those uses. Also see response to CTR-042-007a.

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Comment ID: CTR-035-039  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01c Executive Order 12866

References:

Attachments? N

**CROSS REFERENCES**

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Comment: II. Compliance with Federal Executive Orders and Statutes pp. 42188-42190 -- Executive Order 12866, Regulatory Planning and Review EPA claims that it is not subject to certain requirements of the Executive Order because the Administrator has determined that the CTR is not a "significant regulatory action" within the meaning of Section 3(f)(1) of the E.O. We believe that EPA was incorrect in making this determination, for the following reasons: (1) the annual costs of the CTR will be far in excess of the \$ 100 million threshold (see additional discussion below); (2) the CTR will without question materially adversely affect state and local governments; and (3) the CTR is likely to have a material adverse effect on one or more sectors of the economy, with a prime example being Silicon Valley, the heart of America's high technology industry, which happens to be located around the southern portion of San Francisco Bay. EPA itself identifies three sectors that will bear most of the projected costs of implementing the proposed rule. POTWs, chemical and petroleum industries, and metals and transportation equipment (collectively, these three sectors represent 93% and 97% of the annual costs under the low and high cost scenarios, respectively) (U.S. EPA, 1997b, pp. 3-3 and 3-7). We also believe that the proposed CTR is significantly different from rules that have been promulgated previously, including the National Toxics Rule ("NTR") (40 CFR 131.36) and the Great Lakes Initiative ("GLI") (60 Fed. Reg. 15366). While both of these previous rules promulgated water quality criteria for toxic pollutants, many of the criteria included in the CTR have been recalculated since the NTR was promulgated in 1992 (70, or 37%, have been modified, recalculated, or added), the GLI served a somewhat different purpose than does the CTR (i.e. compliance with the Great Lakes Critical Programs Act of 1990), and, most importantly, those rules did not apply to California.(\*2) Therefore, the economic analyses for those rules did not include an analysis of the economic impacts on California.

We believe that EPA also failed to fulfill its obligations under E.O. 12866, as follows: EPA did not seriously explore available regulatory alternatives, including the option of not regulating; EPA did not make a "reasoned determination that the benefits of the intended regulation justify its costs;" and EPA did not take into account the cost of cumulative regulations. In particular, we believe that for pollutants where the criteria are below commonly found laboratory detection levels, EPA did not fulfill its obligation to analyze the potential costs and benefits of the promulgation of these criteria. Because of this lack of compliance with the requirements of E.O. 12866, EPA should select the alternative of not regulating them at this time. As our ability to detect specific chemicals improves, then EPA may proceed with promulgation, provided all legal responsibilities are met. For all of the above-stated reasons, we believe that EPA must revise the CTR, and its economic analysis of the CTR, to comply with E.O. 12866.

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(\*2) With the exception of the NTR, which partially applied to California. However, the proposed CTR by definition does not duplicate the criteria in the NTR which already apply to California, unless revised criteria are being proposed.

Response to: CTR-035-039

Executive Order (EO) 12866 does not negate the Clean Water Act requirement that States have numeric

criteria for toxic pollutants for which EPA has issued 304(a) guidance. Within EO 12866 there are caveats to the application of the EO including section 1(a): "unless a statute requires another regulatory approach," and section 1(b): "to the extent permitted by law and where applicable."

See responses to CTR-021-005c and CTR-042-007a and the preamble to the final rule for discussions relating to the rule's compliance with EO 12866.

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Comment ID: CTR-036-002b

Comment Author: County of Orange

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01c Executive Order 12866

References: Letter CTR-036 incorporates by reference letters CTR-013, CTR-018, CTR-031, CTR-034 and CTR-040

Attachments? N

CROSS REFERENCES J

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Comment: Cost to Implement the Proposed Rule

The inclusion of municipal stormwater discharges under the proposed rule renders the economic analysis invalid, noting municipal studies that show that stormwater discharges cannot comply with all of the proposed criteria with anything short of major national or regional product substitutions, or end-of-pipe treatment:

The Fresno Metropolitan Flood Control District conducted an attainability analysis on stormwater discharges from its urbanized area detention basins. The analysis showed that even with pollutant reductions in the basins, the proposed criteria would not be met.

The Sacramento Stormwater Program conducted an attainability analysis and found that even with an aggressive BMP program the urbanized area would not achieve certain of the water quality criteria, and that the cost of treatment would be on the order of \$2 billion.

A preliminary attainability analysis conducted by Orange County, based on a limited dataset, indicates similar findings to Fresno and Sacramento in spite of the implementation of a significant BMP program over a multi-year period (see Attachment 2).

A nationwide attainability study, conducted by American Public Works Association in 1992, estimated capital costs and annual operations costs to be \$406,734,900,000 and \$542,036,700,000. Significantly, these estimates omitted the costs associated with engineering, administration, permitting and land acquisition.

Even if end-of-pipe treatment were to be implemented for all urban stormwater, the contribution of toxic pollutants from this source is so minor (less than 3% according to the economic analysis) that they could not be justified by the marginal water quality benefits achieved. Clearly a rule that is known from the outset to inevitably result in massive expenditures which provide little water quality benefit or inevitable municipal noncompliance is not appropriate for California.

The rulemaking process of the federal government is obligated to fully explore the economic implications of the proposed regulatory action through compliance with Executive Order 12866, the Unfunded Mandates Report Act, of 1995 (the "Reform Act"), and the Regulatory Flexibility Act (the "RFA"). In its economic analysis EPA appears to have understated costs and circumvented these requirements resulting in a lack of disclosure of the true impacts of the Rule.

Executive Order 12866 requires any "significant" federal regulatory action to be referred to the Office of Management and Budget for review before it can be approved. In this context a "significant" action includes one which will "have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy". Though admitting that there "may be a cost to some dischargers" to comply with water quality standards which will be derived from these toxics criteria, EPA nonetheless argues that the proposed rule is not a significant action because it "establishes ambient water quality criteria which, by themselves, do not directly impose economic impacts." [62 Fed. Reg. 42188].

First nothing in E.O. 12866 indicates that only actions with direct economic impacts are to be considered by OMB. Second, for EPA to ignore the link between the toxics criteria contained in the proposed rule and the obligations they impose is unfounded.

In short, EPA cannot have it both ways. It cannot indicate that stormwater discharges are subject to the proposed toxics rule and then turn a blind eye toward the costs associated with implementation of this rule. The costs of the proposed rule are direct and significant, greatly exceeding the annual \$100 million threshold, and therefore the rule must be submitted to OMB for review.

Response to: CTR-036-002b

See response to CTR-021-005c, CTR- 021-006b and preamble to the final rule.

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Comment ID: CTR-038-005a  
Comment Author: Sonoma County Water Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01c Executive Order 12866  
References:  
Attachments? Y  
CROSS REFERENCES R  
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Comment: A further consequence of the flawed economic analysis is the conclusion that the CTR is not a major rule (i.e., one which will result in excess of \$100 million per year expenditure) subject to Presidential Executive order 12866 and the Unfunded Mandates Reform Act or a rule that affects small entities protected under the Regulatory Reform Act. The District, for example, is a small community having a population of under 50,000 and, in addition, serves several small towns and communities (Sonoma, Glen Ellen, Boyes Hot Springs and Agua Caliente) that would be greatly impacted by the proposed rule.

Response to: CTR-038-005a

See response to CTR-021-005c.

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Comment ID: CTR-038-006b

Comment Author: Sonoma County Water Agency

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01c Executive Order 12866

References:

Attachments? Y

CROSS REFERENCES C-21

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Comment: 5. The proposed rule is inconsistent with applicable Federal law and regulations. In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. The Clean Water Act requires that water quality standards be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, and recreational purposes (see CWA section 303(c)(2)(A)). Consistent with this, EPA regulations require that water quality standards be based on identification of "specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern..." For those identified waters, "states must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use" (See 40 CFR 131.11(a)(2)). Clearly the intent of both the Clean Water Act and EPA regulations is that water quality standards be tailored to the characteristics of the waters in question. In failing to properly evaluate the rule's economic impacts and in failing to adequately consider regulatory alternatives, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act. Moreover, in failing to properly consider the impacts on small entities, such as the District and the small communities it serves, the rule is inconsistent with the Regulatory Flexibility Act.

Response to: CTR-038-006b

See responses to CTR-021-005c, CTR-036-005, and the preamble to the final rule.

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Comment ID: CTR-038-008b

Comment Author: Sonoma County Water Agency

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01c Executive Order 12866

References:

Attachments? Y

CROSS REFERENCES C-24

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Comment: 7. Separate, sites-specific aquatic life criteria for copper and human health criteria for mercury should be adopted for Schell Slough, or alternatively EPA should specify implementation procedures for these criteria that will preclude unreasonable controls such as end-of-pipe treatment. To comply with the Clean Water Act and EPA regulations, EPA should consider specific water bodies. To fulfill the spirit of Presidential Executive Order 12866 and the requirements of the Unfunded Mandates Reform Act and the Regulatory Flexibility Act, EPA should evaluate regulatory alternatives based on an analysis of costs and benefits. Based on the assessment of costs and benefits described in "3" above, EPA should either adopt the criteria that is currently achieved, or alternatively specify implementation procedures that would allow the current discharge to continue (e.g., allowable Mixing zones and averaging periods and, for copper, a translator and water-effect ratio). Again, the District is amenable to continuing to address these constituents through pollution prevention measures and to assessing the actual impacts of these constituents in Schell Slough. Without EPA specifying such implementation procedures in the CTR, it is possible that the CTR could impose significant costs on the District (and the other small communities its serves) without providing a commensurate environmental benefit. In that case, the CTR would be inconsistent with the Clean Water Act, EPA regulations, Presidential Executive Order 12866, the Unfunded Mandates Reform Act and the Regulatory Flexibility Act.

Response to: CTR-038-008b

See response to CTR-021-005c, the preamble of the final rule.

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Comment ID: CTR-040-009c

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01c Executive Order 12866

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES R

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Comment: MAJOR CONCERNS

We do, however, have fundamental concerns with the Rule as it is presently proposed and its supporting economic analysis. We believe the Rule can be modified in a manner that will be responsive to our concerns while at the same time being consistent with applicable Federal law and regulations. Our major concerns are presented here and are followed by our recommended modifications.

II. Concern: The economic analysis upon which the Rule is based is seriously flawed.

\* A consequence of the cost/benefit analysis of the Rule are several erroneous conclusions, namely that:  
(1) this is not a "significant regulatory action" or a major rule (i.e., one which will result in excess of

\$100 million annual expenditure) subject to the requirements contained in Presidential Executive Order 12866 and the Unfunded Mandates Reform Act; and (2) this is not a rule that will have a significant economic impact on a substantial number of small entities protected under the Regulatory Flexibility Act.

Response to: CTR-040-009c

See response to CTR-021-005c.

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Comment ID: CTR-040-012a

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01c Executive Order 12866

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: MAJOR CONCERNS

We do, however, have fundamental concerns with the Rule as it is presently proposed and its supporting economic analysis. We believe the Rule can be modified in a manner that will be responsive to our concerns while at the same time being consistent with applicable Federal law and regulations. Our major concerns are presented here and are followed by our recommended modifications.

III. Concern: The proposed Rule violates applicable Federal law and regulations

\* In failing to properly evaluate the Rule's impacts and in failing to adequately consider regulatory alternatives, the Rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act (See Attachment B).

Response to: CTR-040-012a

See response to CTR-021-005c.

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Comment ID: CTR-041-013a

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01c Executive Order 12866

References:

Attachments? N

CROSS REFERENCES

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Comment: 8. The proposed Rule is Inconsistent with Applicable Federal Law and Regulations

The proposed rule is inconsistent with applicable Federal law and regulations. In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. (See attached Legal Analysis of the Proposed California Toxics Rule) to properly evaluate the rule's economic impacts and in failing to adequately consider alternative criteria for San Francisco Bay Area waters, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act (Id). In failing to properly consider the impacts on small entities, the rule is inconsistent with the Regulatory Flexibility Act (Id).

Thank you for the opportunity to provide comments on this important new rule. Please call if you have any questions regarding our letter.

Response to: CTR-041-013a

See responses to CTR-021-005c and CTR-036-005.

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Comment ID: CTR-041-015

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01c Executive Order 12866

References:

Attachments? N

CROSS REFERENCES

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Comment: 2. The California Toxics Rule is inconsistent with Executive Order 12866 and the Unfunded Mandates Reform Act.

a. Executive Order 12866

Executive Order (E.O.) No. 12866 was decreed by President Clinton on September 30, 1993. This Order governs review of agency regulations and sets standards that federal agencies should use in planning, drafting, and reviewing regulations. E.O. 12866 requires agencies to:

- Assess all of the costs and benefits of available regulatory alternative, including the alternative of not regulating;
- Propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs;
- specify performance objectives, rather than specify the behavior or manner of compliance, to the extent feasible;
- Tailor its regulations to impose the least burden on society, taking into account, among other things,

the cost of cumulative regulations;

- Afford the public a meaningful opportunity to comment on any proposed regulation, which in most cases should include a comment Period of not less than 60 days;
- Explore and, where appropriate, use consensual mechanisms for developing regulations, including negotiated rulemaking.

EPA contends that the CTR is not a "significant regulatory action" requiring an economic analysis under the terms of E.O. 12866.(\*3) This contention by EPA is erroneous since BADA's attainability analysis shows that the cost to BADA alone may exceed the \$100 million cut-off for determining whether a rule is a "significant regulatory action."

Furthermore, the standard for becoming a "significant-regulatory action" is, among other things, that the proposed rule is likely to have annual effect on the economy of \$ 100 million or more, OR adversely affect in a material way the economy, the environment, or local governments. Thus, EPA should not be able to allege that this is not a "significant regulatory action" because the CTR will be likely to adversely affect the economy and local governments even if the \$100 million cut-off were not met.

Moreover, EPA failed to seriously explore available regulatory alternatives, including an option of not regulating; did not make a "reasoned determination that the benefits of the intended regulation justify its costs;" did not allow a 60-day comment period; and did not seriously take into account the cost of cumulative regulations.

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(\*3) See 62 Fed. Reg. 42,188 (Aug, 5,1997)("It has been determined that this rule is not a "significant regulatory action" under the terms of Executive Order (E.O.) 12866 and is therefore not subject to OMB review").

Response to: CTR-041-015

See responses to CTR-021-005c, CTR-001-001, and CTR-035-001.

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Comment ID: CTR-042-007b  
Comment Author: Cal. Dept. of Transportation  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01c Executive Order 12866  
References:  
Attachments? Y  
CROSS REFERENCES C-21  
S

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Comment: 7. The CTR may violate the Administrative Procedures Act, the and Unfunded Mandates Reform Act (UMRA) Executive Order (E.O.) No. 12866.

In the Preamble to the CTR, EPA repeatedly claims that the CTR will not result in expenditures of more than \$100 million per year and, therefore, the statutory requirements of the UMRA and E.O. 12866 are not triggered.(\*1) Caltrans' annual costs alone and only in Los Angeles will exceed the \$100 million annual figure, even assuming the lowest level of treatment. Therefore, EPA's cost assumptions are challengeable as being arbitrary and capricious and in violation of the Administrative Procedures Act.(\*2)

Request: Caltrans requests that EPA reconsider its cost estimates based on the comments received during the public comment period.

Caltrans would like to thank EPA for the opportunity to provide comments on this proposed regulation. It is hoped that EPA will consider and address Caltrans' comments in the final version of the CTR. Should you have any questions concerning our comments on the CTR, please feel free to address these questions to Marcia Arrant at (916) 657-5381.

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(\*1) See CTR, 62 Fed. Reg. at 42,188, and at 42,191 ("EPA has determined that this rule does not contain a federal mandate that may result in expenditures by State, local and tribal governments, in the aggregate, or by the private sector, of \$100 million or more in any one year.")

(\*2) See American Iron and Steel Institute v. EPA, 1997 WL 297251 (D.C. Cir., 1997)(the court found that EPA had arbitrarily failed to adequately address cost-justification for its elimination of mixing zones. EPA had estimated the total cost of elimination mixing zones for bioaccumulative chemicals of concern (BCCS) from all dischargers to the Great Lakes at \$200,000, without even acknowledging a comment estimating the cost to one town for removal of mercury from its sewage discharge would be approximately \$300,000).

Response to: CTR-042-007b

With respect to the commenter's criticism of the GLI decision, see CTR-042-007a. See CTR-021-005c for an explanation of how the Economic Analysis for the final CTR complies with EO 12866 and UMRA.

Cost estimates provided in the California Department of Transportation (Caltrans) analysis of compliance with the CTR may mix best management practices (BMPs) implementation costs to comply with local storm water permits with new compliance costs resulting from the CTR. EPA's Economic Analysis only evaluates the incremental impact of the water quality standards for toxics compared to the baseline program to avoid a double counting of costs (and benefits). For a detailed discussion of Caltrans' comments, see CTR-040-004.

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Comment ID: CTR-043-005b  
Comment Author: City of Vacaville  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01c Executive Order 12866  
References:

Attachments? Y  
CROSS REFERENCES C-21  
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Comment: 5. The proposed rule is inconsistent with applicable Federal law and regulations.

In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. The Clean Water Act requires that water quality standards be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes (see CWA section 303(c)(2)(A)). Consistent with this, EPA regulations require that water quality standards be based on identification of "specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern..." For those identified waters,"states must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use"(See 40 CFR 131.1 I (a)(2)). Clearly the intent of both the Act and EPA regulations is that water quality standards be tailored to the characteristics of the waters in question. In failing to properly evaluate the rule's economic impacts and in failing to adequately consider regulatory alternatives, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act. Moreover, in failing to properly consider the impacts on small entities, the rule is inconsistent with the Regulatory Flexibility Act.

Response to: CTR-043-005b

See responses to CTR-021-005c and CTR-036-005, and the preamble to the final rule.

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Comment ID: CTR-044-006b  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01c Executive Order 12866  
References:  
Attachments? Y  
CROSS REFERENCES C-21  
R  
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Comment: We have reviewed the proposed CTR and offer the following comments:

5. The proposed rule is inconsistent with applicable Federal law and regulations.

In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. The Clean Water Act requires that water quality standards be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes (see CWA section 303(c)(2)(A)). Consistent with this, EPA regulations require that water quality standards be based on identification of "specific water bodies where

toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern..." For those identified waters, "states must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use"(See 40 CFR 131.11 (a)(2)) (see Exhibit G). Clearly the intent of both the Act and EPA regulations is that water quality standards be tailored to the characteristics of the waters in question. In failing to properly evaluate the rule's economic impacts and in failing to adequately consider regulatory alternatives, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act (Id.). Moreover, in failing to properly consider the impacts on small entities, such as the City, the rule is inconsistent with the Regulatory Flexibility Act (Id.).

Response to: CTR-044-006b

See responses to CTR-021-005c, CTR-036-005, and the preamble to the final rule.

The NOAA data included five bays (San Diego, Humboldt, Monterey, Santa Monica, and San Pedro), two of which are actually covered by the CTR (San Diego and Humboldt). EPA assumed that the data for the nonenclosed bays generally will be applicable to enclosed bays. If EPA had excluded those bays not covered by the rule, the attribution assumption for point sources would actually be higher (see EA, Chapter 7). For example, for urban bays, the toxic-weighted average contribution of point sources is higher for the enclosed bay covered by the rule (San Diego Bay; 91%) compared to the nonenclosed bays (Santa Monica and San Pedro, at 88% and 83%, respectively). EPA employed toxicity-weighting to estimate relative source contribution because the toxicity of the discharge, more than volume, will influence its impact on receiving waters. The California 1996 303(d) report lists both point and nonpoint sources as probable sources of pollution for Santa Monica Bay. The list of pollutants and stressors for Santa Monica Bay includes metals, DDT, and PCBs.

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Comment ID: CTR-044-009b  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01c Executive Order 12866  
References:  
Attachments? Y  
CROSS REFERENCES C-28  
R  
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Comment: We have reviewed the proposed CTR and offer the following comments:

8. EPA should not adopt criteria for any pollutant where the method detection limit exceeds the objective and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses. The proposed rule includes criteria for a number of constituents where there is insufficient data to determine whether the discharge of such pollutants could reasonably be expected to interfere with the designated uses. EPA has chosen to promulgate criteria for these constituents even though section 303 (c)(2)(B) of the Clean Water Act requires States to adopt numeric criteria only for constituents "... the discharge or presence of which in the affected waters could

reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." Clearly, this approach goes beyond the requirements of the Clean Water Act and is therefore unnecessary. Additionally, this approach does not allow EPA to fulfill its duty (under Presidential Order 12866, the Unfunded Mandates Reform Act, and the Regulatory Flexibility Act) to assess the costs, benefits, and impacts of the rule on local government and small entities. While this may be the conservative approach for EPA, it places dischargers throughout the State at risk. As analytical detection limits improve, dischargers may find they are unable to achieve the criteria without costly end-of-pipe controls. But, by then, it will be too late for EPA to evaluate the costs and benefits of the criteria-and-consider alternative criteria. For these reasons, EPA should not adopt criteria for those constituents. If EPA does adopt criteria for those constituents, EPA should evaluate the costs and benefits of toxic criteria, as well as alternative criteria, using worst case assumptions (i.e., assume that discharge levels and ambient levels are at the detection limits).

Response to: CTR-044-009b

See responses CTR-044-033, CTR-021-005c, CTR-004-002, CTR-005-009, and CTR-035-064.

EPA defined toxic-impaired waters as waters rated medium or poor quality for at least one or more toxic pollutant or group of pollutants. EPA acknowledged that this definition may result in an overestimate of toxic-impairment (EA Chapter 8). However, the rating of these waters corresponds to EPA's categories of 'not fully supporting' and 'partially supporting' designated uses. The existence of waters not supporting and only partially supporting designated uses is indicative of the need for and benefits associated with pollution controls.

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Comment ID: CTR-044-045

Comment Author: City of Woodland

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01c Executive Order 12866

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES B Comment Period

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Comment: 2. The California Toxics Rule is inconsistent with Executive Order 12866 and the Unfunded Mandates Reform Act.

a. Executive Order 12866

Executive Order (E.O.) No. 12866 was decreed by President Clinton on September 30, 1993. This Order governs review of agency regulations and sets standards, that federal agencies should use in planning, drafting, and reviewing regulations. E.O. 12866 requires agencies to:

- Assess all of the costs and benefits of available regulatory alternatives, including the alternative of not regulating;
- Propose or adopt a regulation only upon a reasoned determination that the benefits of the intended

regulation justify its costs;

- Specify performance objectives, rather than specify the behavior or manner of compliance, to the extent feasible;
- Tailor its regulations to impose the least burden on society, taking into account, among other things, the cost of cumulative regulations;
- Afford the public a meaningful opportunity to comment on any proposed regulation, which in most cases should include a comment period of not less than 60 days;
- Explore and, where appropriate, use consensual mechanisms for developing regulations, including negotiated rulemaking.

EPA contends that the CTR is not a "significant regulatory action" requiring an economic analysis under the terms of E.O. 12866. This contention by EPA is erroneous since the standard for becoming a "significant-regulatory action" is that the proposed rule is likely to have annual effect on the economy of \$100 million or more, OR adversely affect in a material way the economy, the environment, or local governments. Thus, EPA should not be able to allege that this is not a "significant regulatory action" because the CTR will be likely to adversely affect the economy and local governments even if the \$100 million cut-off were not met.

Moreover, EPA failed to seriously explore available regulatory alternatives, including an option of not regulating; did not make a "reasoned determination that the benefits of the intended regulation justify its costs;" did not allow a 60-day comment periods, and did not seriously take into account the cost of cumulative regulations.

Response to: CTR-044-045

See responses to CTR-021-005c and the preamble to the final rule.

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Comment ID: CTR-045-012b  
Comment Author: Sausalito-Marín Sanitary Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: E-01c Executive Order 12866  
References:  
Attachments? Y  
CROSS REFERENCES E-01d

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Comment: Based on our analysis of the impact of the proposed CTR, we will need to utilize reverse osmosis to meet the proposed CTR limits for copper. Based on this modification, we estimate that our potential annualized costs for compliance will be approximately \$900,000. These costs are significantly higher than EPA's estimated costs per plant of \$27,000 per year to \$480,000 per year. Thus, we strongly believe that the draft Economic Analysis significantly underestimates the potential statewide costs associated with adoption of the CTR and should be revised.

Response to: CTR-045-012b

EPA received a number of comments regarding the ability of existing treatment technologies to meet CTR-based WQBELs for a wide variety of pollutants. The CTR, consistent with the Clean Water Act (CWA) and the National Pollutant Discharge Elimination System (NPDES) program, does not direct facilities on how to comply with permit requirements. Therefore, each regulated facility can consider a variety of options to comply with permit requirements. In estimating compliance costs, EPA selected control options for the sample facilities by taking into consideration treatment feasibility and cost.

In an effort to ensure consistency in estimating the general types of controls that would be necessary for a sample facility to comply with the final CTR, as well as to integrate into the cost analysis the alternatives available through CWA and NPDES permit programs, EPA developed and utilized a decision matrix. The underlying assumption of the decision matrix is that a facility will examine least-cost alternatives prior to incurring the expense and potential liabilities associated with constructing end-of-pipe treatment facilities. Additionally, for the low scenario only, EPA assumes that where current treatability data indicate that end-of-pipe treatment cannot achieve the WQBEL, a regulatory alternative measure, such as phased total maximum daily loads/water quality assessments, site-specific criteria modifications, standards variances, etc., will be utilized.

Under the decision matrix, EPA considered costs for minor treatment plant operation and facility changes first. Where it was not technically feasible to simply adjust existing operations, waste minimization/pollution prevention controls were considered; however, these controls were selected only where they were considered feasible based on EPA's understanding of the processes at a facility. In general, detailed treatment and manufacturing process information is not available in NPDES permit files. Therefore, EPA's assessment of feasibility was primarily based upon best professional judgement using general knowledge of industrial and municipal operations. If waste minimization was deemed not feasible to reduce pollutant levels to those needed to comply with the final Guidance criteria, EPA considered a combination of waste minimization/pollution prevention and simple treatment. If these relatively low-cost controls could not achieve the CTR-based WQBELs, then, finally, EPA assigned costs for end-of-pipe treatment.

It should be noted that under the low scenario, EPA provided one additional cost assumption. Before assuming that treatment would be installed by the facility, EPA first considered whether or not the treatment had been shown to achieve the requisite effluent concentration, and evaluated the relationship between the cost of adding the treatment versus other types of remedies or controls. If EPA concluded that treatment was not technically feasible, or that other remedies or controls would be more feasible than installing end-of-pipe treatment, EPA assumed that a facility would alternatively pursue regulatory options for relief from the WQBEL. When EPA assumed that facilities would pursue a regulatory alternative, no end-of-pipe treatment cost was estimated for a facility; however, a nominal cost for efforts to reduce the pollutant using best available control methodologies was included. Where regulatory alternatives were utilized, EPA did not take credit for any load reduction for any pollutant for which regulatory alternatives were assumed. Finally, EPA estimated and included the typical cost to facilities pursuing alternatives to CTR-based WQBELs. These costs may include activities such as additional monitoring, performing special studies, etc., to support facilities' requests for alternatives to CTR-based WQBEL.

EPA's revised per plant cost estimates are \$61,000 to \$325,000 per year for POTWs for the low and high cost scenarios in its Economic Analysis of the final CTR. These costs are based on analyzing a sample of facilities and extrapolating to the whole universe of POTWs. Because these values represent averages for the universe of facilities throughout the state, it is possible that costs may be higher for some facilities

and that others may have very low or zero costs.

Given Sausalito-Marín City Sanitary District's (SMCSD) effluent concentration of 22 ug/L and the proposed CTR limit provided in the comment of 15.3 ug/L, a 30.4% loading reduction would be required. Since SMCSD does not provide other details of its current operations, it is not possible for EPA to evaluate whether reverse osmosis is the only feasible option which would ensure compliance with the CTR-based limit. However where sample facilities commented that they would need to install reverse osmosis and provided data to that effect, EPA's analysis of that data found that reverse osmosis would not be necessary.

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Comment ID: CTR-050-007b

Comment Author: Sonnenschein Nath & Rosenthal

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org: American Petrol

Document Date: 09/26/97

Subject Matter Code: E-01c Executive Order 12866

References:

Attachments? N

CROSS REFERENCES C-21

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Comment: IV. EPA Has Not Complied With Applicable Regulatory Review Requirements. There are several significant statutes and executive orders that require EPA to undertake analyses of the costs and benefits of its regulations, and to submit the regulations and analyses to other governmental bodies, including the Office of Management and Budget (OMB) and Congress. Those authorities include the Regulatory Flexibility Act, the Small Business Regulatory Enforcement and Fairness Act (SBREFA), the Unfunded Mandates Reform Act, the Congressional Review Act, and Executive Order 12866 (Regulatory Planning and Review). EPA apparently believes that it does not need to comply with any of those requirements for this rulemaking. (62 Fed. Reg. at 42188-42191). API believes that EPA is required to meet those obligations for the proposed criteria, and that the Agency's rationale for avoiding this responsibility has no legal basis.

EPA supports its decision not to comply with the regulatory review statutes by stating that the proposed criteria "by themselves, do not directly impose economic impacts." (62 Fed. Reg. at 42188). EPA admits that when those criteria are combined with the designated uses that have been adopted by the State, and implemented in permit limits, "there may be a cost to some dischargers." (62 Fed. Reg. at 42188) could be substantial; the Agency itself estimates that the compliance cost could be between \$15 and \$87 million per year. (62 Fed. Reg. at 42189). (That does not include indirect costs to the economy, which would surely put this rule above the \$100 million impact threshold specified in several of the regulatory review statutes listed above.) EPA cannot ignore those costs by creating its own interpretation of those statutes in which only "direct" impacts need be considered. There is no support in the statutory language or legislative history for such a reading, and EPA has cited no such support in its Federal Register notice.

There is another problem with EPA's rationale for avoiding regulatory review: if EPA were right that "indirect" impacts do not trigger those reviews, the impacts of this rulemaking are not really "indirect."

Those impacts emerge clearly once the proposed criteria are combined with the State's designated uses. Those designations have already been established, so there is nothing uncertain or indefinite about that aspect of the water quality standards. Then, once the standards are completed, the State must implement those standards through permit limits. While there are some decisions that the State must make in determining the proper permit limits, which can influence the size of the compliance costs, EPA can readily determine a range of possible costs. In fact, the Agency has already done so, resulting in the \$15 - \$87 million cost range discussed above. While those costs may not be fixed with certainty, they are certainly "direct economic impacts". Therefore, even if the Agency were correct in looking at only "direct" impacts, this rulemaking poses such impacts, and EPA must comply with the statutory requirements to conduct and submit cost and benefit analyses of its proposed criteria.

## V. CONCLUSION

As explained above, EPA's proposal to issue water quality criteria for toxicities in the State of California suffers from serious legal flaws. API urges the Agency to reconsider its intended course of action in light of the issues raised in these and other public comments. If you have any questions regarding these comments, or would like any additional information, please call Theresa Pugh at 202/682-8036.

Response to: CTR-050-007b

See responses to CTR-050-007a, CTR-021-005c, and the preamble to the final rule.

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Comment ID: CTR-052-021b

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01c Executive Order 12866

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES C-21

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Comment: C. RECOMMENDATIONS FOR MODIFICATIONS TO THE CTR AND EA

EPA should revise the proposed rule and economics analysis such that they are consistent with applicable Federal law and regulations. In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. In failing to properly evaluate the rule's economic impacts and in failing to adequately consider alternative criteria for San Francisco Bay Area waters, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act. In failing to properly consider the impacts on small entities, the rule is inconsistent with the Regulatory Flexibility Act. Specific citations for these inconsistencies are contained in comments from BADA and CASA/Tri-TAC.

Response to: CTR-052-021b

See responses to CTR-009-008a and CTR-021-005c.

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Comment ID: CTR-054-008c

Comment Author: Bay Area Dischargers Assoc.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01c Executive Order 12866

References:

Attachments? Y

CROSS REFERENCES C-02b

C-24

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Comment: Separate, scientifically defensible, reasonably achievable aquatic life criteria for copper should be adopted for San Francisco Bay, or alternatively EPA should specify in the Preamble implementation policies for copper that will result in reasonable control measures actions. To comply with the Clean Water Act and EPA regulations, EPA is required to consider specific water bodies. To fulfill the spirit of Presidential Executive Order 12866 and the requirements of the Unfunded Mandates Reform Act, EPA is required to evaluate regulatory alternatives based on an analysis of costs and benefits. Based on BADA's analysis of costs and benefits, EPA should either adopt copper criteria that are reasonably achievable or alternatively specify implementation policies that will avoid costly end-of-pipe controls. Potential implementation measures that could be specified include use of the following in calculating effluent limitations: actual dilution based on modeling studies; copper translators; probability of compliance less than 99.9%; and water-effect ratios determined for different segments of the Bay. Unless EPA specifies these or similar implementation policies in the rule, it is possible that the CTR could result in significant costs (\$12 million per year to \$78 million per year) while resulting in minor environmental benefit (a 1% reduction in copper loading to the Bay). In that case, the CTR would violate the Clean Water Act, EPA regulations, Presidential Executive Order 12866, the Unfunded Mandates Reform Act and the Regulatory Flexibility Act. (see the discussion under Item 11 below.)

Response to: CTR-054-008c

See responses CTR-054-013a, CTR-021-005c, CTR-056-018, CTR-042-007a, and the preamble to the final rule.

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Comment ID: CTR-054-049

Comment Author: Bay Area Dischargers Associati

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01c Executive Order 12866

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES B Comment Period

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Comment: 2. The California Toxics Rule is inconsistent with Executive Order 12866 and the Unfunded Mandates Reform Act.

a. Executive Order 12866

Executive Order (E.O.) No. 12866 was decreed by President Clinton on September 30, 1993. This Order governs review of agency regulations and sets standards, that federal agencies should use in planning, drafting, and reviewing regulations. E.O. 12866 requires agencies to:

- Assess all of the costs and benefits of available regulatory alternatives, including the alternative of not regulating;
- Propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs;
- Specify performance objectives, rather than specify the behavior or manner of compliance, to the extent feasible;
- Tailor its regulations to impose the least burden on society, taking into account, among other things, the cost of cumulative regulations;
- Afford the public a meaningful opportunity to comment on any proposed regulation, which in most cases should include a comment period of not less than 60 days;
- Explore and, where appropriate, use consensual mechanisms for developing regulations, including negotiated rulemaking.

EPA contends that the CTR is not a "significant regulatory action" requiring an economic analysis under the terms of E.O. 12866. This contention by EPA is erroneous since the standard for becoming a "significant-regulatory action" is that the proposed rule is likely to have annual effect on the economy of \$100 million or more, OR adversely affect in a material way the economy, the environment, or local governments. Thus, EPA should not be able to allege that this is not a "significant regulatory action" because the CTR will be likely to adversely affect the economy and local governments even if the \$100 million cut-off were not met.

Moreover, EPA failed to seriously explore available regulatory alternatives, including an option of not regulating; did not make a "reasoned determination that the benefits of the intended regulation justify its costs;" did not allow a 60-day comment periods, and did not seriously take into account the cost of cumulative regulations.

Response to: CTR-054-049

See response to CTR-021-005c.

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Comment ID: CTR-055-003

Comment Author: USS-POSCO Industries  
Document Type: Specific Industry  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01c Executive Order 12866  
References:  
Attachments? Y  
**CROSS REFERENCES**

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Comment: UPI requests Office of Management and Budget (OMB) review of the subject reputation in accord with Executive Order (E.O.) 12866.

The EPA has not fully considered the impact and cost of Waste Load Allocation (WLA) for industrial facilities and for publicly owned treatment works (POTWs), even though the EPA supports the State Task Force conclusion which recognized that the development of Total Maximum Daily Load (TMDL) criteria was "significantly labor and data intensive" and that a "collaborative effort by....stockholders, could distribute work and associated costs". Costs were not properly determined for this significant effort or for the even larger compliance effort required for dischargers.

UPI has considered technologies and costs for compliance with the proposed regulation, recognizing that total maximum daily loads (TMDLs) would apply for a number of water quality-based effluent limitations (WQBELS) likely to be applicable to the receiving water at our facility.

UPI has determined that the only assured means of compliance with the proposed regulation is by use of equipment and operating methods that would eliminate discharge. Technologies for control are difficult, but appear to be feasible. The installed cost of such facilities at a plant such as ours which began operation early this century and contains numerous old installations was estimated at more that \$25,000,000 when it was evaluated about five years ago. Such a cost for our facility when extended over just a few of the 56 major industrial facilities and 128 POTWs identified in California by the EPA would mandate OMB review of the subject regulation.

Response to: CTR-055-003

See response to CTR-021-005c. EPA disagrees with the commenter's statement that TMDLs would result in significant compliance costs. The use of TMDLs in developing permit limits would only reduce the cost impacts on facilities evaluated under the CTR because costs would not be borne solely by the point source dischargers. If EPA were to evaluate implementation costs using the TMDL process, it would allocate load reductions between point and nonpoint sources to take advantage of the most cost-effective mix of controls possible. EPA's current costing approach is conservative, erring towards higher costs by assuming that point sources would bear the cost burden alone. With a TMDL process, the result would be a more cost-effective mix between nonpoint and point source dischargers which could conceivably reduce the incremental impact on point source dischargers once current nonpoint source control programs are fully implemented.

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Comment ID: CTR-059-002a  
Comment Author: Los Angeles County Sanit. Dist  
Document Type: Sewer Authority

State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01c Executive Order 12866  
References: Letter CTR-059 incorporates by reference letter CTR-035  
Attachments? Y  
CROSS REFERENCES R  
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Comment: The Sanitation Districts disagree with EPA's assertions that the CTR is not a significant regulatory action under Executive Order 12866 or the Unfunded Mandates Reform Act, and that EPA is not required to comply with the Regulatory Flexibility Act because the CTR establishes no requirements applicable to small entities. We believe the potential costs for POTWs to comply with the CTR criteria would far exceed the \$ 100 million threshold, based on the fact that we estimate that the potential costs for seven Sanitation Districts' facilities to comply with the CTR to be nearly \$150 million per year. Clearly, many of the 304 other POTWs in the State will also incur costs, as, will other NPDES permittees, indirect dischargers, stormwater dischargers, and nonpoint sources. Thus, EPA's cost figure of \$15 - \$87 million per year is simply not a credible estimate. Also, it is quite clear that the CTR is likely to adversely affect local governments, including over 40 small communities located in our service area, and that it is significantly different from other federal regulations previously promulgated in California. We believe that EPA has not complied with the mandates of Executive Order 12866, the Unfunded Mandates Reform Act and the Regulatory Flexibility Act. Accordingly, EPA must revise the economic analysis and it must be reviewed by the Office of Management and Budget and then EPA must select the most cost-effective and least burdensome regulatory alternative.

Response to: CTR-059-002a

EPA disagrees with LACSD's \$150 million cost estimate, however EPA is not able to evaluate LACSD's estimate because LACSD does not provide monitoring data or any other details with which EPA can perform it's own analysis or evaluate LACSD's methodology. Based on EPA's analysis, costs to POTWs for the entire state range from \$7.8 million to \$41.6 million, much less than LACSD's \$150 million cost estimate. See response to CTR-021-005c and the preamble for a discussion of how EPA's economic analysis meets the requirements of EO 12866, the UMRA, and the RFA.

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Comment ID: CTR-059-004a  
Comment Author: Los Angeles County Sanit. Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01c Executive Order 12866  
References: Letter CTR-059 incorporates by reference letter CTR-035  
Attachments? Y  
CROSS REFERENCES M

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Comment: As others have commented, we also encourage EPA to build on its efforts over the past year to coordinate with the State Water Resource Control Board (SWRCB). In particular, we recommend that in the future the two agencies take such steps as the use of simultaneous comment periods, joint preparation

of the economic analysis, and joint final promulgation, much as the "CAL-FED" agencies are doing. Simultaneous comment periods would greatly facilitate review by the public. Development of a joint economic analysis would greatly reduce the time and resources expended by the two regulatory agencies, as well as by stakeholders. Most importantly, EPA and the SWRCB should adopt the CTR and the State's Implementation Policy at the same time. This will eliminate uncertainties for permit writers and the regulated community as to how the CTR should be implemented, and encourage greater statewide consistency in the implementation of the CTR.

Response to: CTR-059-004a

See responses to CTR-034-016.

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Comment ID: CTR-059-006b

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01c Executive Order 12866

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES C-28

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Comment: Due to the time constraints of the comment period, we have focused our review and comments primarily on those criteria that we anticipate may cause compliance issues for one or more of the Sanitation Districts' WRPs (see below). Based on our initial review of the proposed rule, the Sanitation Districts recommend that adoption of some of the criteria be deferred. As explained in the attached comments, we believe that there are significant scientific issues regarding the human health criteria for several trihalomethanes that call into question the accuracy and appropriateness of the proposed criteria. In addition, we recommend that EPA defer adoption of those criteria that are below detection limits and that have not been demonstrated to be adversely affecting water quality or the attainment of designated uses on a water body-specific basis in California. In addition, we recommend that EPA not adopt criteria for effluent dependent waters, unless they have been adjusted to reflect the characteristics of this type of water body.

#### Criteria Below Detection Limits

We believe that there are fundamental problems with EPA's decision to adopt criteria that are below detection limits. This issue relates to EPA's statutory and regulatory obligations in establishing water quality criteria; namely, that EPA is subject to the same policies, procedures, analyses, and public participation requirements as States pursuant to 40 CFR section 131. These regulations require States to "review water quality data and information on discharges to specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use." (40 CFR section 131.11) For criteria where the method detection limit exceeds the objective, there are inadequate data to determine if the pollutant could reasonably be expected to interfere with attainment of designated uses. We believe

that because of the inability to detect these substances and the lack of monitoring information indicating water quality use impairment EPA has not been able to fulfill its obligations to conduct a water body-specific analysis of the need to promulgate criteria.(\*1)

(\*1)U.S. Environmental Protection Agency, Economic Analysis of the Proposed California Water Quality Toxics Rule, Office of Water (EPA-820-B-96-001, July 1997), p. 8-18.

Second, EPA has not fulfilled its obligations under the Unfunded Mandates Reform Act and Executive Order 12866 to analyze the costs and benefits of promulgating proposed criteria which cannot be detected or for which insufficient monitoring data are available.

Given these deficiencies, we recommend that EPA defer the adoption of criteria for constituents which are below detection limits until such time as EPA has demonstrated that the levels of toxic pollutants being discharged are at a level to warrant concern. As an alternative, EPA could defer to the State for promulgation of criteria for such compounds on a water body-specific basis as part of the State's continuous water quality planning process.

Response to: CTR-059-006b

See responses to CTR-021-005c and CTR-005-009.

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Comment ID: CTR-059-015a

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01c Executive Order 12866

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

**CROSS REFERENCES**

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Comment: Executive, Order 12866 and Unfunded Mandates Reform Act

The Sanitation Districts disagree with EPA's assertion that the CTR is not a significant regulatory action under Executive Order 12866 or the Unfunded Mandates Reform Act. We believe that the potential costs for POTWs to comply with the CTR criteria could far exceed the \$ 100 million threshold, based on the fact that we estimate that the potential costs of seven Sanitation Districts' facilities to comply with the CTR could be nearly \$150 million per year. Clearly, many of the 304 other POTWs in the State will also incur costs, as will other NPDES permittees, indirect dischargers, stormwater dischargers, and nonpoint sources. Thus, EPA's cost figure of \$15 - \$87 million per year is simply not a credible estimate. Also, it is quite clear that the CTR is likely to adversely affect local governments, and that it is significantly different from other federal regulations previously promulgated in California. Therefore, we believe that EPA has not complied with the mandates of E.O. 12866 and the Unfunded Mandates Reform Act, and that the economic analysis must be revised, and EPA must select the most cost-effective and least burdensome regulatory alternative. In addition, the Office of Management and Budget should review the economic analysis and the rule before it is promulgated, as required by Section 6 of E.O. 12866.

Response to: CTR-059-015a

See responses to CTR-021-005c and CTR-059-002a.

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Comment ID: CTR-090-012a

Comment Author: C&C of SF, Public Util. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01c Executive Order 12866

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

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Comment: The PUC is aware that the Clean Water Act does not require and in fact does not allow for economic considerations in meeting water quality requirements. However, other policies and regulatory mandates (Executive Order 12866 and the Unfunded Mandates Reform Act) require that we disclose to the public the cost of meeting water quality requirements. There is no doubt that there will be costs that California must bear to produce water quality. We must assure the public that the costs will produce benefits. We are not confident that this proposed rule can do that.

Response to: CTR-090-012a

See response to CTR-021-005c.

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Comment ID: CTR-092-016a

Comment Author: City of San Jose, California

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01c Executive Order 12866

References: Letter CTR-092 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES

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Comment: Introductory Comment

EPA states in the Executive Summary (page ES-2) to the Economic Analysis that:

"EPA did not calculate costs for any program for which it does not have enforceable authority ... (nor) for NPDES sources which are not typically subject to numeric WQBELs....."

From a national policy perspective, this narrowing, of the focus of the Economic Analysis may be a

justifiable approach to cost benefit analysis. Local government, however, is not able to disregard the potential cost effects of the CTR on urban and agricultural runoff. Those potential costs will have to be defrayed with proceeds from the same pool of local rate payers responsible for paying for point source pollutant removal programs. In California, those ratepayers have made clear both their support for environmental protection and their reluctance to pay more than is necessary for that protection. A narrow definition of those costs included in the CTR Economic Analysis continues the pattern of fragmenting responsibility and authority for the protection of waterways, which in turn hinders creation and implementation of holistic strategies which would best serve the environment at least cost.

#### Questions for EPA on the Introductory Comment

Q.-1) If not EPA, who has the responsibility to define the aggregated costs of all water quality-related regulations?

Q.-2) San Jose's reading of federal policy initiatives (which include, but are not limited to, the Regulatory Flexibility Act, Executive Order 12866, and the Unfunded Mandates Reform Act) indicates that EPA is empowered to analyze the economic impact of federal regulations in a way that addresses both aggregated cost impacts as well as the fiscal reality of local level government. Why was this not accounted for in the current analysis?

Response to: CTR-092-016a

See response to CTR-021-005c.

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Comment ID: CTR-092-022a

Comment Author: City of San Jose, California

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01c Executive Order 12866

References: Letter CTR-092 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES E-01b01

E-01y

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Comment: Comment #6: General Cost Analysis Concerns

The City of San Jose has several generalized concerns about the costs utilized in the Economic Analysis, which raise questions regarding the validity of that analysis, as follows:

Q.6-1) We believe the real point of undertaking the CTR is to assure water quality throughout the State that protects beneficial uses. How can the existing Economic Analysis be sufficient if it does not address the cost of meeting the CTR standards from all sources of discharge? Especially given the amount and cost of aggressive intervention in reducing point source pollution undertaken in California to date?

Q.6-2) Throughout the text of the CTR and within the Economic Analysis, EPA refers repeatedly to the assumption that the State will provide regulatory relief to mitigate severe cost impacts engendered by the CTR. What happens to EPA's cost benefit analysis if even one of those assumptions of regulatory relief is not implemented by the State? While we support EPA's attempt to indicate available regulatory options for the State, local level governments and POTW's have little past experience on which to rationalize acceptance of such assumptions.

Q.6-3) EPA has not estimated the cost to local governments/POTW's/indirect dischargers of securing regulatory relief, nor has that cost been incorporated into the estimate of the CTR impact. How would EPA estimate the cost of securing regulatory relief and how would that additional cost affect the Economic Analysis? Especially since very costly studies may be required in order to qualify for regulatory relief.

Q.6-4) The preamble to the CTR discusses the linkage between the CTR and the National Toxics Rule, and EPA's intent to create a level playing field by setting the CTR standards within the National Toxics Rule Framework. There does not seem to have been a similar attempt to analytically level the playing field vis a vis implementation costs, however, as no indexing or calibration has been undertaken to account for the cumulative costs of efforts to date (see also Q. 4-3), cost equivalency data is rooted in experience outside California, and simple average costs are used to represent widely variable ranges. How would the CTR cost/benefit relationship be affected by adjusting for California's significant previous efforts on water quality control mechanisms and California cost data?

Response to: CTR-092-022a

See responses to CTR-032-004, CTR-060-019, CTR-004-003. and CTR-035-048.

Because implementation is the responsibility of the state, EPA does not control, nor does it know, what the cost impacts of implementing the CTR will be.

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Subject Matter Code: E-01c01 \$100M Threshold

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Comment ID: CTR-034-003

Comment Author: SCAP

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01c01 \$100M Threshold

References: Letter CTR-034 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES

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Comment: LEGAL ISSUES - Executive Order 12866, Unfunded Mandates Reform Act, Regulatory Flexibility Act

\* SCAP disagrees with EPA's assertion that the CTR is not a significant regulatory action under Executive Order 12866. We believe that the potential costs of complying with NPDES permit limits based on the CTR criteria alone could far exceed the \$100 million threshold. The CTR can also be considered a significant rule because it will "materially affect" one or more sectors of the economy, it will adversely affect local governments, and it is significantly different from other federal regulations previously promulgated in California.

Response to: CTR-034-003

See response to CTR-021-005c.

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Comment ID: CTR-035-044a

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01c01 \$100M Threshold

References:

Attachments? N

CROSS REFERENCES E-01d01

J

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Comment: pp. 42188-42189 - Potential Costs Do Not Meet the \$100 Million Threshold Under E.O. 12866 (also see discussion above) As noted on p. 42188, one component of the definition of a "significant regulatory action" is that the rule may have an annual effect on the economy of \$100 million or more. EPA states on p.42189 that "the annualized potential costs that direct and indirect dischargers may incur as a result of State implementation of permit limits based on water quality standards using today's proposed criteria are estimated to be between \$15 million and \$87 million." We believe that this range significantly underestimates the potential costs that may be realized from the implementation of this rule. This belief is based on the numerous assumptions used by EPA that would have served to underestimate

potential costs, including assumptions about regulatory flexibility that are clearly contradicted in the Preamble to the rule itself. These issues are further enumerated in Attachment 2, which contains an analysis prepared by the environmental economics firm, M. Cubed. Furthermore, we strongly believe that EPA has a duty to look at a full range of potential costs that may be incurred, and not just to look at the costs under optimistic assumptions. This duty is especially acute in light of the uncertainties of how the CTR will be implemented by the State.

We examined the potential costs for the POTW sector to determine the reasonableness of EPA's cost estimates. Our preliminary analysis indicates that for 23 major POTWs the annualized costs could reach \$400 million.(\*3) This estimate includes the cost to construct and operate end-of-pipe treatment processes where these would be necessary to achieve projected effluent limits. Unlike the EPA cost estimates, we have assumed that regulatory relief options may not be available, and that, based on the pollutants causing compliance problems, pollution prevention and treatment plant optimization might not be sufficient to reliably achieve compliance. Thus, we feel that this estimate reflects a more accurate depiction of the potential POTW "high-end" compliance costs that could result from the draft CTR. Based on this analysis, we believe that EPA should re-analyze the potential costs for POTWs to meet water quality-based effluent limits based on the criteria in the CTR.

As noted on p. ES-2 of the Economic Analysis (U.S. EPA, 1997a), EPA estimated only the costs to point sources, and did not estimate the potential costs for compliance for nonpoint source dischargers, despite the fact that the majority of water bodies in California are impaired due to nonpoint source discharges (SWRCB, 1996). In addition, EPA failed to estimate the costs of compliance for wet weather dischargers, such as municipal and industrial stormwater dischargers. These omissions also lead us to believe that the potential total costs of the rule are far greater than \$100 million. EPA must correct these deficiencies and redo the Economic Analysis.

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(\*3) Backup information for these cost estimates is available upon request.

Response to: CTR-035-044a

See response to CTR-021-005c.

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Comment ID: CTR-035-056b  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01c01 \$100M Threshold  
References:  
Attachments? N  
CROSS REFERENCES E-01c02  
E-01p

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Comment: Introduction

On behalf of CASA and Tri-TAC, M.Cubed reviewed the U.S. Environmental Protection Agency 's

(USEPA) Economic Analysis (Analysis), as well as the report's underlying benefit and cost data and analyses. M.Cubed's overall reaction is that policy makers and the regulated community can place little confidence in either the benefit or cost analyses -- the uncertainties and broad assumptions contained in these analyses largely undermines their findings. Based on the information provided by USEPA, M.Cubed's judgement is that the proposed California Toxics Rule (Rule) will result in multi-million dollar annual costs -- and have substantial impacts on individual publicly-owned treatment works (POTWS) and dischargers -- and may result in no noticeable benefits to public health or the environment. A critique of specific weaknesses in the cost and benefit analyses is provided below.

### Weaknesses in Overall Report Findings

The Analysis' overall findings exhibit a number of flaws, as follows:

USEPA's estimates indicate that Rule costs outweigh benefits, both on an annualized and present value basis. USEPA's claim that comparison "...of both annualized benefits and costs and discounted benefits and costs indicates that the monetized benefits of the CTR are of the same general magnitude as the costs" is simply not true (U.S. EPA, 1997a, page 9-2). For example, using USEPA's comparison of a twenty-year phase-in of benefits at a 3 percent discount rate against a ten-year phase-in of costs at a 7 percent discount rate, or benefits of between approximately \$20 to \$600 million against costs of about \$180 million to \$1 billion (setting aside the significant weaknesses in the analysis; differences in the probabilities of low or high outcomes; and questions over the appropriate discount rate to apply)(\*2) indicates a low cost scenario which is nine times higher than the estimated benefits, and a high cost scenario which is almost twice as high as benefits.(\*3)

Executive Order 12866, which requires the economic review, defines "significant regulatory action" as one that is likely to "adversely affect ... a sector of the economy." Yet, although the USEPA finds that two sectors will incur the majority of the regulatory costs POTWs and chemical/petroleum products -- it provides no analysis of whether or not these costs are "significant" to these sectors. Likewise, USEPA does not examine the potential costs or their implications to small businesses (e.g., health care providers; automobile repair shops), small communities, or non-significant industrial users (SIUs) in general (i.e., industries that are regulated by POTWs through local ordinances, rather than under federal rules)

USEPA's conclusion that the use of different risk levels would not significantly influence compliance costs is not supported by its data. Based on USEPA's own data, use of a 10E-5 risk level for carcinogens would induce a 25 percent cost savings relative to a 10E-6 risk level under the low cost scenario, with a 3 percent change in pollutant loadings.(\*4)

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(\*2) Noticeable benefits seem unlikely to emerge in the near term, if at all, due to the persistence of existing contaminants in the environment, while costs will be incurred over one to two decades. Use of a lower discount rate for benefits would reflect the greater value future generations may place on environmental amenities, an assumption which is open to debate.

(\*3) The large differences between benefits and costs is mirrored by the wide range in estimated pollution reduction. Under USEPA's low scenario, only .63 million toxic pounds-equivalent are expected to be reduced under the rule, compared to a high scenario reduction of 7 million pounds equivalent. That is, reductions under the high scenario are eleven times higher than under the low scenario.

(\*4) Under the high cost scenario cost reductions are less than 1 percent, with a 7 percent change in pollutant loadings.

Response to: CTR-035-056b

See response to CTR-021-005c.

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Comment ID: CTR-045-013  
Comment Author: Sausalito-Marín Sanitary Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: E-01c01 \$100M Threshold  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: The proposed regulation is a significant regulatory action because it may well impose costs that are greater than \$100 million per year on the regulated community, the majority of which are local public agencies. Regardless of the dollar amount, it is likely to adversely affect in a material way the economy, the environment, or local governments.

Response to: CTR-045-013

See response to CTR-021-005c.

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Comment ID: CTR-066-017  
Comment Author: Delta Diablo Sanitation Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01c01 \$100M Threshold  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: The areas with which we find concerns and the requested changes include the following:

\* The proposed CTR is a significant regulatory action because it will impose costs that are greater than \$100 million per year on the regulated community, the majority of which are local public agencies. Regardless of the dollar amount, it is likely to adversely affect in a material way the economy, the environment, or local governments.

Response to: CTR-066-017

See response to CTR-021-005c.

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Comment ID: CTR-082-011  
Comment Author: City of Burbank  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: E-01c01 \$100M Threshold  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: The subject rule has a significant impact on our facility discharge and the citizens of the City. We therefore present the following comments for your consideration to re-open the comment period for this rule in order to facilitate a more complete review by public and in particular by those in the POTW community:

\* It should be noted that proposed regulation is a significant regulatory action, because it may well impose costs that are greater than \$100,000,000 per year on the regulated community. Regardless of the dollar amount, it is likely to adversely affect in a material way the economic environment a local government.

Response to: CTR-082-011

See response to CTR-021-005c.

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Comment ID: CTR-084-002a  
Comment Author: City of Redding  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01c01 \$100M Threshold  
References:  
Attachments? N  
CROSS REFERENCES S

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Comment: ISSUES OF CONCERN

The Unfunded Mandates Act of 1995, 62 FR 42191. The City of Redding disagrees with the conclusion that the proposed rule does not result in expenditures by state or local governments in aggregate of \$100 million or more in any one year. The strict water quality criteria in the proposed rule would directly cause the state to adopt more stringent standards for dischargers, which would then require the local dischargers to implement exorbitant and costly measures against our users.

Regarding unfunded mandates, the City of Redding believes that the state and local governments would have no alternative in implementing this federal rule than to enforce exorbitant and costly measures

against our users. Therefore, the proposed rule would directly cause significant burden and costs to state and local governments.

Response to: CTR-084-002a

See response to CTR-021-005c.

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Comment ID: CTR-096-003a  
Comment Author: City of Modesto  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01c01 \$100M Threshold  
References:  
Attachments? N  
CROSS REFERENCES J-05

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Comment: Thank you for the opportunity to comment on the proposed California Toxics Rule. The City's comments are related to five main concepts:

3. The cost implications of these numerical standards are estimated to exceed \$100 million to the City of Modesto alone, thereby triggering the President's Executive Order 12866 requiring a more detailed and comprehensive cost-benefit assessment of these proposed standards.

Specifically, the City submits the following comments:

E. Under the proposed rule, Best Management Practices (BMPS) are recommended for compliance with the California Toxic Rule. BMPs may include a variety of processes. Each of these processes may have an associated construction and operation cost. For the City of Modesto, due to the design of the wastewater and stormwater collection systems, it may cost between \$25 million to \$50 million to construct acceptable BMPS. Existing BMPs may not reduce the pollutant level below that listed in the proposed CRT. Therefore, it is our opinion that construction costs presented in the California Toxic Rule are significantly under estimated. Constructed treatment facilities for wastewater and storm water, beyond BMPS, could exceed \$1 00 million for Modesto alone. In addition, annual operation and maintenance costs for BMPs and treatment facilities exceed \$1,000,000.

In summary, the proposed regulation is significant because it may well impose costs that are greater than \$100 million per year on the regulated community, the majority of which are local public agencies. Regardless of the dollar amount, it is likely to adversely affect, in a material way, the economy, the environment, and local governments.

Thank you in advance for consideration of my comments on the CTR.

Response to: CTR-096-003a

See response to CTR-021-005c.



Subject Matter Code: E-01c02 Bnfts do not Balance Cost

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Comment ID: CTR-005-005

Comment Author: Novato Sanitary District

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/23/97

Subject Matter Code: E-01c02 Bnfts do not Balance Cost

References:

Attachments? Y

**CROSS REFERENCES**

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Comment: 4. The economic analysis is seriously flawed. The major flaws include: (1) failing to do an appropriate sampling of dischargers having little or no dilution; (2) assuming in the high-end cost scenario that a 25% reduction could be achieved through source control and an additional 25% achieved through treatment plant optimization without capital improvements; (3) constraining estimates of potential costs through key assumptions, including the assumption that regulatory relief from the rule would be granted if costs were in excess of certain thresholds; and (4) exaggerating estimates of potential benefits by assuming an end (i.e., achievement of the proposed water quality criteria) that will not result from the rule. The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated.

The District's analysis demonstrates that actual costs may be an order of magnitude greater than EPA's \$500/lb threshold and the benefits may be nil. A further consequence of the flawed economic analysis is the conclusion that the CTR is not a major rule (i.e., one which will result in excess of \$100 million per year expenditure) subject to Presidential Executive order 12866 and the Unfunded Mandates Reform Act or a rule that affects small entities protected under the Regulatory Reform Act. For example, the District serves the City of Novato which has a population under 50,000 and would be greatly impacted by the proposed rule.

Response to: CTR-005-005

See responses to CTR-005-004, CTR-054-013a, CTR-021-005c, CTR-040-029a, and CTR-042-007a.

The standards established in the CTR apply to certain California waterbodies. EPA currently only applies water quality based effluent limits to point sources, and thus the estimate of post-regulation cost reflects only the potential impact of controls on point sources. EPA's benefits analysis is based on an assumption that other controls may also be required of other sources in the future (e.g., under state of law for non-point sources). As controls on other sources are implemented (e.g., remediation of contaminated sediments; best management practices to control storm water discharges, EPA expects that concentrations in fish tissue will decline further and that the standards established by the CTR to protect human health can be achieved.

EPA also believes that the risk reducing impact of the regulation on point sources may not be fully illustrated by EPA's analysis which is based on only a small sample of point source dischargers. Baseline risk levels are based on actual fish tissue concentrations, post-regulation risk levels are estimated by examining the potential for reducing loadings at a sample of facilities. Pollutants responsible for much of the baseline health risk at specific sites, such as popular fishing areas in San

Francisco Bay, may be found in point source effluents, however, the facilities discharging these pollutants may not be included in the sample and, thus, EPA's analysis may underestimate the risk reduction impact on point sources.

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Comment ID: CTR-029-004a  
Comment Author: Center for Marine Conservation  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01c02 Bnfts do not Balance Cost  
References:  
Attachments? N  
CROSS REFERENCES E-02e

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Comment: The Center for Marine Conservation (CMC) is a nationwide, nonprofit advocacy group dedicated to the conservation and enhancement of coastal and ocean life and resources. CMC submits these comments on behalf of its 16,000 members in California and over 120,000 members nationwide.

CMC applauds EPA's efforts to bring California into compliance with the Clean Water Act 303(c)(2)(B). Implementing numeric criteria that will protect the beneficial uses of California's waters is of great importance to the health of coastal and marine ecosystems, and so to CMC and its members. The reliance in many areas of the state on narrative criteria threatens the health of most of the state's waters, thereby impacting both human health and the health of the state's economy that relies on clean water.

While CMC strongly supports the swift adoption of an Enclosed Bays and Estuaries Plan and an Inland Surface Waters Plan that contain numeric criteria for toxic pollutants, CMC also is concerned that many of the specific criteria contained in the proposed rule are weaker than those contained in published guidance. CMC also believes that the proposed rule can better protect certain subpopulations from harm caused by consumption of contaminated fish and shellfish. Finally, CMC is concerned that the economic analysis of the proposed rule over-emphasizes costs and under-reports the many benefits of improving water quality throughout the state. These three points are reviewed below.

The Proposed Rule's Economic Analysis Over-Emphasizes Costs and Under reports the Benefits of Improving Water Quality Throughout the State

By EPA's own admission, the proposed rule's economic analysis over-reports costs and under-reports benefits. Specifically, the proposed rule states that "cost estimates for both scenarios, but especially for the high-end scenario, may be overstated because the analysis tended to use conservative assumptions."(\*8) Conversely, "numerous categories of potential or likely benefits have been omitted" from the analysis, and these omitted benefits "are likely to be significant contributors" to an "appreciable underestimation" of the overall benefits of the rule.(\*9) Categories left out of the benefits analysis include improvements in water-related, non-fishing recreation, improvements in land recreation, and improvements in human health resulting from reducing non-cancer risk.(\*10)

CMC believes it is possible to quantify many of these omitted benefits to obtain a more accurate picture of the importance of this rule. For example, a recent Santa Monica Bay Restoration Project Study found that people swimming close to storm drains face a 50% increase in their risk of contracting a variety of

non-cancer ills such as gastroenteritis and ear and other infections. At a minimum, EPA's analysis could capture the benefits of improved water quality in terms of avoided sick days and avoided medical costs for such users.

CMC also believes that the economics analysis should consider other categories of benefits not mentioned at all in the proposed rule. For example, Governor Wilson's March 1997 planning document, California's Ocean Resources: An Agenda for the Future, finds that industries that depend on healthy coastal and ocean waters contribute \$17.3 billion to the state's economy each year and support 370,000 jobs. The majority of this total, \$10 billion, is from tourism, which is not mentioned in the proposed rule but which could benefit greatly from improved water quality. Such omitted benefits should be examined in order to have a more balanced economic analysis.

The adequacy of the proposed rule's economic analysis is important to the long-term implementation of the rule. As reported by EPA, "[t]he allegation that the State did not sufficiently consider economics when adopting Water quality objectives ... was an important issue in the litigation" that resulted in the rescission of the Enclosed Bays and Estuaries Plan and the Inland Surface Waters Plan.(\*11) Moreover, an accurate description of the benefits of the proposed rule is critical to obtaining funding and public support for swift implementation of the numeric criteria. CMC thus requests that the benefits analysis be updated where possible to parallel the acknowledged "conservative" approach used in estimating the costs of the proposed rule.

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(\*8) Id. at 42189.

(\*9) Id. at 42190.

(\*10) Id.

(\*11) Id. at 42165.

Response to: CTR-029-004a

The benefits of water quality improvements are highly site specific and difficult to monetize due to limitations in benefits methodology and accurate data on society's values for these improvements. For example, there are currently few means of linking consumption of toxic contaminants by humans with cases of systemic effects (as opposed to cancer effects, for which dose-response curves have been estimated). As another example, the contingent valuation (CV) is the only method for estimating passive use values, and CV surveys require substantial resources to conduct. As a result, there is limited data and information with which to estimate the benefits of the proposed rule. Since these values are not known, a parallel conservative approach is not possible. EPA presented the information on the limitations of the analysis (e.g., costs may be overstated and benefits may be understated) to assist decision makers in evaluating the results.

Illnesses contracted from swimming, such as those evaluated in the study of storm water drains in Santa Monica Bay, typically result from exposure to pathogens that will not be regulated under the CTR. Noncancer effects from the toxic pollutants that will be reduced by the rule are difficult to quantify because of a lack of information on the link between concentrations in the environment and potential cases of systemic effects.

EPA's analysis does not cover all benefit categories as the commenter notes, however, the evaluation of

all categories of benefits in a constructive manner is beyond the scope of this analysis, thus EPA has done the best possible analysis given the time and budget constraints. EPA believes that had all the benefit categories been fully evaluated, the monetized benefits for this rule would have increased significantly. However, secondary benefits (e.g., tourism) or economic impacts embody the successive rounds of spending in an economy that result from the primary benefits of a regulation. These secondary benefits (or impacts) are estimated based on the analysis of data on interindustry linkages within a region. Although these impacts may be of relevance to policy makers, the inclusion of secondary benefits may be inappropriate. This is because under conditions of reasonably full employment, the resources placed into support services (or diverted from complying entities) would be diverted from (or redirected toward) other productive purposes (i.e., net jobs would not be created or lost for otherwise unemployed individuals but, rather, workers would be drawn to or away from other jobs). Thus, these secondary impacts represent a transfer or redistribution of resources rather than changes in real economic activity.

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Comment ID: CTR-032-008b  
Comment Author: Las Gallinas Val. Sanitary Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01c02 Bnfts do not Balance Cost  
References: Letter CTR-032 incorporates by reference letter CTR-035  
Attachments? N  
CROSS REFERENCES E-01u

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Comment: Economic Analysis

The District supports CASA/Tri-TAC's conclusions that the Economic Analysis has significant technical weaknesses, is based on a large number of assumptions and minimal empirical data, and that it almost certainly understates costs and overestimates benefits. There is a critical need for a sound economic analysis. We also agree with their recommendation that EPA and the SWRCB undertake a collaborative process with interested members of the public to revise the Economic Analysis based on guidelines in the Economic Considerations Task Force Report.

Response to: CTR-032-008b

See responses to CTR-056-018 and CTR-092-017.

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Comment ID: CTR-035-043  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01c02 Bnfts do not Balance Cost  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: III. Economic Analysis A. General Comments p. 9-2 (U.S. EPA, 1997a) - EPA Finds that Benefits Are of Same General Magnitude as Costs

Whether the monetized benefits and costs are compared on an annualized basis, or on a total, discounted basis, we disagree with EPA's conclusion that the benefits are of the same magnitude as the costs. When looked at in terms of a twenty-year phase-in of benefits at a 3 percent discount rate and a ten-year phase-in of costs at a 7 percent discount rate, in the low cost scenario, the costs are nine times higher than the benefits; in the high cost scenario, the costs are nearly twice as high as the benefits. Thus, we think that EPA should disclose in its conclusions and in the summary contained in the Preamble to the CTR that the costs appear to outweigh the benefits. Thus, as discussed above, we believe EPA has to demonstrate that the benefits outweigh the costs, as required under E.O. 12866.

Response to: CTR-035-043

See responses to CTR-021-005c, CTR-032-004, CTR-004-003, CTR-040-039, and CTR-021-006b.

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Comment ID: CTR-035-056a

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01c02 Bnfts do not Balance Cost

References:

Attachments? N

CROSS REFERENCES E-01c01

E-01p

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Comment: Introduction

On behalf of CASA and Tri-TAC, M.Cubed reviewed the U.S. Environmental Protection Agency's (USEPA) Economic Analysis (Analysis), as well as the report's underlying benefit and cost data and analyses. M.Cubed's overall reaction is that policy makers and the regulated community can place little confidence in either the benefit or cost analyses -- the uncertainties and broad assumptions contained in these analyses largely undermines their findings. Based on the information provided by USEPA, M.Cubed's judgement is that the proposed California Toxics Rule (Rule) will result in multi-million dollar annual costs -- and have substantial impacts on individual publicly-owned treatment works (POTWS) and dischargers -- and may result in no noticeable benefits to public health or the environment. A critique of specific weaknesses in the cost and benefit analyses is provided below.

Weaknesses in Overall Report Findings

The Analysis' overall findings exhibit a number of flaws, as follows:

USEPA's estimates indicate that Rule costs outweigh benefits, both on an annualized and present value basis. USEPA's claim that comparison "...of both annualized benefits and costs and discounted benefits and costs indicates that the monetized benefits of the CTR are of the same general magnitude as the

costs" is simply not true (U.S. EPA, 1997a, page 9-2). For example, using USEPA's comparison of a twenty-year phase-in of benefits at a 3 percent discount rate against a ten-year phase-in of costs at a 7 percent discount rate, or benefits of between approximately \$20 to \$600 million against costs of about \$180 million to \$1 billion (setting aside the significant weaknesses in the analysis; differences in the probabilities of low or high outcomes; and questions over the appropriate discount rate to apply)(\*2) indicates a low cost scenario which is nine times higher than the estimated benefits, and a high cost scenario which is almost twice as high as benefits.(\*3)

Executive Order 12866, which requires the economic review, defines "significant regulatory action" as one that is likely to "adversely affect ... a sector of the economy." Yet, although the USEPA finds that two sectors will incur the majority of the regulatory costs - POTWs and chemical/petroleum products -- it provides no analysis of whether or not these costs are "significant" to these sectors. Likewise, USEPA does not examine the potential costs or their implications to small businesses (e.g., health care providers; automobile repair shops), small communities, or non-significant industrial users (SIUs) in general (i.e., industries that are regulated by POTWs through local ordinances, rather than under federal rules)

USEPA's conclusion that the use of different risk levels would not significantly influence compliance costs is not supported by its data. Based on USEPA's own data, use of a 10E-5 risk level for carcinogens would induce a 25 percent cost savings relative to a 10E-6 risk level under the low cost scenario, with a 3 percent change in pollutant loadings.(\*4)

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(\*2) Noticeable benefits seem unlikely to emerge in the near term, if at all, due to the persistence of existing contaminants in the environment, while costs will be incurred over one to two decades. Use of a lower discount rate for benefits would reflect the greater value future generations may place on environmental amenities, an assumption which is open to debate.

(\*3) The large differences between benefits and costs is mirrored by the wide range in estimated pollution reduction. Under USEPA's low scenario, only .63 million toxic pounds- equivalent are expected to be reduced under the rule, compared to a high scenario reduction of 7 million pounds equivalent. That is, reductions under the high scenario are eleven times higher than under the low scenario.

(\*4) Under the high cost scenario cost reductions are less than 1 percent, with a 7 percent change in pollutant loadings.

Response to: CTR-035-056a

EPA disagrees with the commenter's claim that costs outweigh benefits. In the Economic Analysis of the final CTR, EPA estimates that benefits may range from \$6.9 million to \$74.7 million per year and costs may range from \$33.5 million to \$61.0 million per year. EPA believes that benefits are underestimated due to EPA's inability to monetize all categories of benefits. See also responses to CTR-056-018, CTR-029-004b, and CTR-035-057.

Regarding the issue of whether the CTR imposes significant costs on the chemical/petroleum product and POTW industries, see the response to CTR-042-007a. Based on 40 CFR.131.11, EPA is supposed to base current criteria on sound science and the criteria must contain sufficient parameters to protect the designated uses. From the outset of the national water quality standards program, EPA has explained that while economic factors may be considered in designating uses, scientific and technical factors must form the basis for the criteria to meet those uses. However, in the spirit of EO 12866, EPA has evaluated the cost impact of the CTR on the regulated community.

EPA disagrees with the commenter that the use of different risk levels significantly influences compliance costs. Under EPA's revised low scenario, there is a 3% difference in costs and under the high scenario, there is a 10% difference in costs between the alternative 10E-5 risk level scenario and the CTR-based 10E-6 risk level scenario. Cost increments should be compared to benefits increments, not loading reductions, for a more realistic evaluation of the impact of risk levels. EPA believes that monetized benefits might be commensurate with the cost increase resulting from the lower risk level and EPA believes that costs may be overstated in the high scenario.

See also response to CTR-021-005c.

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Comment ID: CTR-035-064  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01c02 Bnfts do not Balance Cost  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Weakness in cost analysis The report cost estimates exhibit a number of significant weaknesses, as follows:

\* Although USEPA claims that its estimates most likely overstate potential costs, the Analysis is based on a large number of assumptions that could act to understate rule related expenditures. Table One identifies some of these assumptions.

Table One Other Major Technical Assumptions Which Could Significantly Impact the Cost Analysis

Assumption / Potential Impact on Analysis

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"If all monitoring data reported for a facility were reported as below analytical detection levels, even if the reported detection limit was above EPA-approved analytical detection levels, it was assumed that no reasonable potential existed to exceed CTR-based WQBELS." (U.S. EPA, 1997b, page 2-13)

RWQCB's permitting policies could undermine this assumption, thereby inducing greater impacts than assumed in the analysis (e.g., lindane in the City of Los Angeles).

\*\*\*\*\*

The low-cost scenario assumes "no cost" after costs exceed \$200 per toxic pounds equivalent; high-cost threshold is assumed to be \$500 per toxic pounds.

If relief not given, costs would be substantially higher. Relief is estimated to cost \$200,000 per facility,

despite a potential range of \$20,000-\$1,000,000 per pollutant. Since "the facility ultimately must achieve the CTR based WQBEL" (U.S.EPA, 1997b, page 2-31) under this method costs should properly be extended to the future (e.g, discounted). Relief provision isn't balanced with benefit reductions.

\*\*\*\*\*

USEPA claims that "minor dischargers are not expected to incur significant impacts as a result of State implementation of CTR water quality criteria." (US, EPA, 1997b, page ES-1).

This statement appears to be based on a sample of three minor dischargers, an insufficient sample to reflect the entire population of these dischargers.

\*\*\*\*\*

Between 10 to 30 percent of indirect dischargers could be affected by pretreatment requirements.

This percentage is based on a Great Lakes study, with no reason to believe similar patterns exist in California, Although pre-treatment costs are very industry-specific, USEPA's data is solely based on two California cases: Compliance period may not allow for optimal use of pretreatment; optimization; or end-of-pipe treatments.

\*\*\*\*\*

Assumes that costs are incremental (e.g., that rule compliance would result in distinct investment from past or future behavior).

Could require the need to reorganize capital or operating expenditures, resulting in higher costs. The costs of existing unmet standards should be considered.

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"...assumed that all sludges generated would be nonhazardous..that sludge would be disposed of in municipal landfills..."

"...potential costs associated with storing and transporting sludge were not considered." (U.S. EPA, 1997b, page 2-35)

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Average per-facility process "optimization" costs were assumed to be \$100,000, and to be fully effective in obtaining targeted reductions.

This is an optimistic assumption.

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Depreciation and the cost of capital where not included in the O&M costs. Financing assumed to be available.

Some (small) POTWs may have difficulty obtaining lowcost financing, particularly as a result of

Proposition 218.

\*\*\*\*\*

"...detailed treatment and manufacturing process information was not available in the NPDES permit files, ...the assessment of feasibility was based primarily upon best professional judgement using general knowledge of industrial and municipal operations." (U.S.EPA, 1997b, page 2-30)

Use of generalized knowledge may act to under- or over-estimate file costs to specific POTWs and dischargers.

\*\*\*\*\*

Technical assumptions in the case studies (e.g., treatment of process waters; optimization) merit engineering review.

Examination of case-specific costs could result in different estimates.

Response to: CTR-035-064

See also responses to CTR-032-004, CTR-040-024, CTR-040-029a, CTR-040-036, CTR-059-018, and CTR-060-019.

EPA acknowledges that as permit limits are established below analytical detection levels, ambient water quality background data also may be below analytical detection levels, which may make analysis of use attainability more difficult. However, in accordance with the procedures recommended in Water Quality Standards Handbook, Second Edition (U.S. EPA 1994), analysis of use attainability encompasses evaluating physical and biological indicators as well as the ability to meet water quality criteria.

The commenter's statement that, under EPA's analysis, no reasonable potential is assigned to pollutants with projected effluent limits below detection levels is inaccurate. In EPA's high scenario, pollutants with projected CTR-based limits below detection levels are assigned reasonable potential and analyzed for potential compliance costs if they have an existing NPDES permit limit. The fact that a Regional Board assigns a permit limit to a pollutant reported below detection level indicates that the Board may require further controls to ensure compliance. In the Economic Analysis, EPA estimates that facilities would implement pollution prevention or waste minimization programs in order to achieve compliance with limits below method detection levels.

For the City of Los Angeles POTW, EPA determined reasonable potential to exceed water quality criteria for lindane because a (1991) permit limit exists and discharge data show reasonable potential to exceed CTR criteria. EPA did not estimate compliance costs, however, because the existing permit limit is as stringent as the projected CTR-based permit limit.

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Comment ID: CTR-038-004d

Comment Author: Sonoma County Water Agency

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97  
Subject Matter Code: E-01c02 Bnfts do not Balance Cost

References:

Attachments? Y

CROSS REFERENCES E-01g08

E-01h

E-01m

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Comment: 4. The economic analysis is seriously flawed. The major flaws include: (1) failing to do an appropriate sampling of dischargers having little or no dilution; (2) assuming in the high-end cost scenario that a 25% reduction could be achieved through source control and an additional 25% achieved through treatment plant optimization without capital improvements; (3) constraining estimates of potential costs through key assumptions, including the assumption that regulatory relief from the rule would be granted if costs were in excess of certain thresholds; and (4) exaggerating estimates of potential benefits by assuming an end (i.e., achievement of the proposed water quality criteria) that will not result from the rule. The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated. The District's analysis demonstrates that actual costs may be an order of magnitude greater than EPA's \$500/lb threshold and that the benefits are very small.

Response to: CTR-038-004d

See responses to CTR-054-013a, CTR-032-004, CTR-021-008, and CTR-040-029a.

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Comment ID: CTR-040-008a

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01c02 Bnfts do not Balance Cost

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES E-01m

E-02c

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Comment: MAJOR CONCERNS

We do, however, have fundamental concerns with the Rule as it is presently proposed and its supporting economic analysis. We believe the Rule can be modified in a manner that will be responsive to our concerns while at the same time being consistent with applicable Federal law and regulations. Our major concerns are presented here and are followed by our recommended modifications.

II. Concern: The economic analysis upon which the Rule is based is seriously flawed.

\* Estimates of potential costs are severely constrained due to certain assumptions including the assumption that regulatory relief from the Rule will be granted if costs are in excess of certain thresholds.

\* Estimates of potential benefits are exaggerated by assuming, that the proposed water quality criteria

will actually be achieved in receiving water bodies. This will not result from the implementation of the Rule because the Rule is only addressing permitted discharges to the receiving water bodies.

\* The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated.

Response to: CTR-040-008a

See responses to CTR-054-013a, CTR-032-004, and CTR-056-018.

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Comment ID: CTR-040-042

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01c02 Bnfts do not Balance Cost

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

**CROSS REFERENCES**

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Comment: EPA improperly lumps all criteria together in estimating costs and benefits. The result is that the pollutant reductions that form the basis for most of the costs (chromium, mercury, silver and toluene) are not generally the same pollutants that form the basis for most of the benefits (DDT, PCBs, mercury and dioxin). The cost-benefit analysis should be done on a pollutant-by-pollutant basis and it should be done on the basis of the pollutants that will be reduced as a result of the CTR.

Response to: CTR-040-042

For a discussion of the estimation of benefits and costs for individual pollutants see response to CTR-044-033.

To calculate potential human health risk reduction benefits, EPA first calculated baseline risk levels using actual contaminant concentrations found in fish tissue. EPA then multiplied the baseline risk levels by the estimated reduction in loadings expected to result from the implementation of point source controls and by the relative contribution of point source loadings to total loadings. For DDT, EPA estimated a 68.8% reduction in point source loadings under the high end cost estimate and a 0% reduction in point source loadings under the low end cost estimate. EPA's estimate of human health benefits reflects these estimated reductions. For example, potential cancer-related benefits to recreational anglers range from \$0 to \$4.2 million for freshwater resources and total \$0 for San Francisco Bay. In addition, the risk reducing impact of the regulation on point sources may not be fully illustrated by EPA's analysis which reflects only a sample of point source dischargers. That is, although baseline risk levels are based on actual fish tissue concentrations, post-regulation risk levels are estimated by examining the potential for reducing loadings at a sample of facilities. Pollutants responsible for much of the baseline health risk at specific sites, such as popular fishing areas in San Francisco Bay, may be found in point source effluents, however, the facilities discharging these pollutants may not be included in the sample.

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Comment ID: CTR-041-038  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01c02 Bnfts do not Balance Cost  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: EPA improperly lumps all criteria together in estimating costs and benefits. The result is that the pollutant reductions that form the basis for most of the costs (chromium, mercury, silver and toluene) are not generally the same pollutants that form the basis for most of the benefits (DDT, PCBs, mercury and dioxin). The cost-benefit analysis should be done on a pollutant-by-pollutant basis and it should be done on the basis of the pollutants that will be reduced as a result of the CTR.

Response to: CTR-041-038

See responses to CTR-040-042 and CTR-044-033.

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Comment ID: CTR-043-004e  
Comment Author: City of Vacaville  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01c02 Bnfts do not Balance Cost  
References:  
Attachments? Y  
CROSS REFERENCES E-01g  
E-01h  
E-01m  
E-02c

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Comment: 4. EPA's Economic Analysis is seriously flawed. The major flaws include:

- (1) failing to do an appropriate sampling of small dischargers having little or no dilution;
- (2) assuming in the high-end cost scenario that a 25% reduction could be achieved through source control and an additional 25% achieved through treatment plant optimization without capital improvements;
- (3) constraining estimates of potential costs through key assumptions, including the assumption that regulatory relief from the rule would be granted if costs were in excess of certain thresholds; and
- (4) exaggerating estimates of potential benefits by assuming an end (i.e., achievement of the proposed

water quality criteria) that will not result from the rule.

The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated. Moreover, the flawed economic analysis has led to the erroneous conclusion that the CTR is not a "significant regulatory action" or major rule subject to Presidential Executive Order 12866 and the Unfunded Mandates Reform Act or a rule that affects small entities protected under the Regulatory Flexibility Act.

Response to: CTR-043-004e

See responses to CTR-054-013a, CTR-021-005c, CTR-032-004, CTR-021-008, CTR-040-029a, CTR-056-018, and CTR-059-018.

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Comment ID: CTR-044-005e  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01c02 Bnfts do not Balance Cost  
References:  
Attachments? Y  
CROSS REFERENCES E-01g08  
E-01h01  
E-01m  
E-02c  
R  
S

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Comment: We have reviewed the proposed CTR and offer the following comments:

4. EPA's Economic Analysis is seriously flawed. The major flaws include:

(1) failing to do an appropriate sampling of small dischargers having little or no dilution; (2) assuming in the high-end cost scenario that a 25% reduction could be achieved through source control and an additional 25% achieved through treatment plant optimization without capital improvements; (3) constraining estimates of potential costs through key assumptions, including the assumption that regulatory relief from the rule would be granted if costs were in excess of certain thresholds; and (4) exaggerating estimates of potential benefits by assuming an end (i.e., achievement of the proposed water quality criteria) that will not result from the rule. Additional concerns with the economic analysis are presented in Exhibit F. The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated. Moreover, the flawed economic analysis has led to the erroneous conclusion that the CTR is not a "significant regulatory action" or major rule subject to Presidential Executive Order 12866 and the Unfunded Mandates Reform Act or a rule that affects small entities protected under the Regulatory Flexibility Act. The City, for example, is a small community having a population of under 50,000 and would be greatly impacted by the proposed rule.

Response to: CTR-044-005e

See responses to CTR-054-013a, CTR-021-005c, CTR-032-004, CTR-021-008, and CTR-040-029a.

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Comment ID: CTR-044-033  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01c02 Bnfts do not Balance Cost  
References:  
Attachments? N

#### CROSS REFERENCES

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Comment: EPA improperly lumps all criteria together in estimating costs and benefits. The result is that the pollutant reductions that form the basis for most of the costs (chromium, mercury, silver and toluene) are not generally the same pollutants that form the basis for most of the benefits (DDT, PCBs, mercury and dioxin). The cost-benefit analysis should be done on a pollutant-by-pollutant basis and it should be done on the basis of the pollutants that will be reduced as a result of the CTR.

Response to: CTR-044-033

See response to CTR-054-013a.

Although a small subset of toxic pollutants are responsible for cancer risk reduction benefits, EPA anticipates ecosystem-wide benefits (e.g., noncancer risk reductions, ecologic benefits) from controlling a range of toxic pollutants. EPA did estimate human health benefits on a pollutant-specific basis. For other benefit categories, EPA estimated potential benefits based on toxic-weighted loading reductions to account for the different toxicities of the pollutants.

EPA recognizes the persistence of some of the substances addressed by the CTR (e.g., DDT and PCBs) and the impact of this persistence on the realization of benefits. In the EA (Chapter 9), EPA accounted for this lag by assuming 10- and 20-year phase-in periods for benefits in its comparison of present value benefits and costs.

In addition, EPA believes that point source controls can factor into pollutant reduction scenarios, although the cost-effectiveness of point and nonpoint source controls are likely to be highly site specific. Potential "hidden" loads (contaminant concentrations which are not currently measured because they are below detection levels) from point sources may also be occurring and may increase the potential benefits of point source controls. In addition, point source loadings reductions will reduce future sediment contamination and, thereby, reduce the need for costly site-specific sediment remediation in the future. Therefore, the CTR can be viewed as both reducing current environmental risks (yielding benefits) by reducing current loadings, and reducing future environmental cleanup costs.

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Comment ID: CTR-054-037  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA

Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01c02 Bnfts do not Balance Cost  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: EPA improperly lumps all criteria together in estimating costs and benefits. The result is that the pollutant reductions that form the basis for most of the costs (chromium, mercury, silver and toluene) are not generally the same pollutants that form the basis for most of the benefits (DDT, PCBs, mercury and dioxin). The cost-benefit analysis should be done on a pollutant-by-pollutant basis and it should be done on the basis of the pollutants that will be reduced as a result of the CTR.

Response to: CTR-054-037

See responses to CTR-040-042 and CTR-044-033.

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Comment ID: CTRH-001-037a  
Comment Author: Robert Reid  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: CASA  
Document Date: 09/17/97  
Subject Matter Code: E-01c02 Bnfts do not Balance Cost  
References:  
Attachments? N  
CROSS REFERENCES E-01q03  
E-01h02

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Comment: Second, the interaction between the CTR and the state's implementation policy is particularly important given our second concern, which is namely that the EPA's economic evaluation underestimates the costs and overestimates the benefits of implementing this rule.

Our concern about the cost estimates is based on the fact that the cost analysis appears to undervalue the magnitude of difficulty dischargers will have complying with permits issued based on this rule.

We are also concerned that the cost estimates for various compliance activities such as source control and treatment process optimization made in the case studies are overly optimistic and not reflective of the true actions that will need to be taken to insure compliance.

Overall, we are concerned that the expenditures that may be necessary for many POTWS to comply with the CTR will be large, these costs may not be matched by commensurate benefits, and that EPA has not analyzed whether point source controls are in fact a cost-effective way to achieve water quality standards.

Our preliminary analysis for just five agencies in the Bay Area to comply with the proposed standard for copper alone could amount to more than \$60 million per year -- 60 million. This number would be far higher if calculated for every pollutant listed in the CTR for the entire POTW industry in California.

Since this estimate would undoubtedly exceed the high end of the range contained in EPA's analysis, we believe it is necessary for EPA to redo the economic analysis to fully comply with its legal responsibilities.

In addition, revised economic analysis is necessary to provide a sound basis for the State to use in its analysis of the economic impacts of the implementation policy.

Response to: CTRH-001-037a

See responses to CTR-041-018, CTR-035-057, CTR-056-018, CTR-004-003, and CTR-040-039.

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Comment ID: CTRH-002-016a

Comment Author: Lisa Ohlund

Document Type: Public Hearing

State of Origin: CA

Represented Org: Alliance of So. CA POTWs

Document Date: 09/18/97

Subject Matter Code: E-01c02 Bnfts do not Balance Cost

References:

Attachments? N

CROSS REFERENCES E-01h

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Comment: And finally, I'd like to comment on the analysis of the economic impact of the CTR. We believe that the analysis does not portray a reasonable picture of what the potential costs and benefits may result from the promulgation of this CTR. In our opinion, the cost analysis contains many flawed assumptions that result in severe underestimation of the total potential costs, and we're particularly concerned about the use of process optimization and how it was relied upon.

Likewise, the benefits, while admittedly difficult to estimate, appear tenuous at best. The bottom line is that we are concerned that this analysis does not properly reveal that the CTR can lead to requirements for large expenditures by POTWs in Southern California with questionable benefits to the environment. We recommend that EPA carefully redo its economic analysis to portray a more accurate picture of the potential costs and benefits.

Thank you again for this opportunity. We look forward to submitting our comments in writing.

Response to: CTRH-002-016a

See responses CTR-054-013a, CTR-035-057, CTR-056-018, and CTR-004-003.

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Subject Matter Code: E-01d Direct Dischargers

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Comment ID: CTR-011-001c

Comment Author: City of Simi Valley

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: E-01d Direct Dischargers

References: Letter CTR-011 incorporates by reference letters CTR-027 and CTR-034

Attachments? Y

CROSS REFERENCES C-13

C-24

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Comment: The City of Simi Valley discharges approximately 10 million gallons per day (mgd) of tertiary-treated wastewater (as well as municipal storm water) to the Arroyo Simi, an effluent dependent water body. Through much of the year, Arroyo Simi is dry several miles downstream from the City. The Arroyo Simi Characterization Report, completed by the City in 1995, concluded that the arroyo does not support a significant fishery, and observed only arroyo chub, mosquito fish and blunt-nosed minnow in the stream. Although designated as a potential municipal water supply in the Basin Plan, the arroyo waters are not used for municipal purposes. Effluent monitoring are limited, but available data indicate that the City's discharge may have a reasonable potential to exceed the proposed aquatic life criteria for several metals and the proposed human health criteria for several carcinogens.

Since Simi Valley is largely a residential community with supporting commercial development and little industry, and since the City already has an effective pretreatment program, it is unlikely that pollution prevention efforts would effectively reduce the problematic constituents. More likely, the City would be faced with end-of-pipe treatment controls such as lime precipitation and carbon adsorption to achieve the proposed criteria. The costs would undoubtedly be significant and the benefits relatively minor.

Under these circumstances, it appears reasonable to adopt criteria for Arroyo Simi, and similar effluent dependent waters, that are reasonably achievable without costly end-of-pipe controls and that reflect the actual use of the water (i.e., generally such waters are used for fishing or drinking). One way to address this issue, consistent with the requirements of the Clean Water Act, would be to adopt specific human health criteria for Arroyo Simi and other effluent dependent streams based on a cancer risk coefficient of  $10E-5$  or in some cases  $10E-4$ . Based on the limited data collected by the City, risk levels of  $10E-4$  would have to be adopted for dioxins, aldrin, alpha-BHC and 4,4,-DDD (see Table 1). Risk levels of  $10E-5$  would be sufficient for chloroform and endoslfan 11 (Id.).

Response to: CTR-011-001c

See responses to CTR-004-003, CTR-021-008, and CTR-056-018.

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Comment ID: CTR-035-008c

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97  
Subject Matter Code: E-01d Direct Dischargers

References:

Attachments? N

CROSS REFERENCES E-01g08

E-01e

E-01m

E-01h

E-01c

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Comment: Finally, we have serious concerns about the accuracy of the draft Economic Analysis and the estimates of the costs and benefits of the draft CTR (see detailed comments in Attachments I and 2). Our primary concerns related to the cost analysis include 1) that the case studies on which the cost analysis is based do not adequately represent the actual population of POTWs in California; 2) the omission of costs that could be incurred by many sectors that contribute to overall loadings, and, hence, can be expected to have to reduce their loadings (e.g., non-SIU indirect dischargers, municipal and industrial stormwater dischargers, agricultural activities, and other nonpoint sources of CTR-regulated pollutants); 3) the use of numerous assumptions that underestimate costs; and 4) the capricious removal of costs that exceed threshold values by assuming that regulatory relief measures will be granted, despite the lack of any proposed regulatory relief trigger in the proposed regulation.

To illustrate the degree of underestimation of costs for the POTW sector alone, we looked at potential compliance costs for the POTW sector. We found that the potential costs for 23 major POTWS, on an annualized basis, may reach \$400 million. We believe that this analysis demonstrates that the potential cost consequences of compliance with effluent limits based on the proposed CTR criteria would easily exceed the \$ 100 million annual cost threshold, especially when the costs of all 313 POTWs in the State are estimated. Thus, we believe that EPA must conclude that the proposed CTR could have significant economic impacts on local governments.

Response to: CTR-035-008c

See responses to CTR-021-005c, CTR-032-004, CTR-040-039, CTR-021-006b, CTR-040-037, and CTR-059-018.

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Comment ID: CTR-035-061

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01d Direct Dischargers

References:

Attachments? N

CROSS REFERENCES

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Comment: Weaknesses in Cost Analysis The report's cost estimates exhibit a number of significant weaknesses, as follows:

\* The Analysis does not account for changes in discharges over time. Changes in the volume and characteristics of discharges resulting from demographic,(\*9) economic, and policy trends are ignored in the analysis. For example, existing economic conditions may lead to greater discharge volumes; electric industry restructuring in California may induce different operating patterns among the state's generators (e.g., Hunter's Point), and air quality rules may alter petroleum refining processes (e.g., reformulated gasoline). These impacts may be region- (e.g., Silicon Valley) or industry-specific.

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(\*9) For example, the state may add another six million Californians between 1996 and 2005. See Center for Continuing Study of the California Economy, California County Projections, 1997 Edition.

Response to: CTR-035-061

EPA estimated annual (steady-state) benefits and annualized costs as well as 20- and 30-year streams of benefits and costs to account for the differences in the time frame for experiencing benefits and costs (i.e., up-front capital cost and a phase-in of benefits). EPA did not forecast economic, demographic, or policy changes across these time periods. Such a forecast would involve a great deal of uncertainty. However, EPA does not foresee changes in these variables negatively impacting the anticipated ratio of benefits and costs. Rather, EPA believes that future increases in population and economic activity will most likely increase the benefits of achieving standards for toxic pollutants in California waters compared to the cost of controls.

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Comment ID: CTR-045-012a  
Comment Author: Sausalito-Marín Sanitary Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: E-01d Direct Dischargers  
References:  
Attachments? Y  
CROSS REFERENCES E-01c

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Comment: Based on our analysis of the impact of the proposed CTR, we will need to utilize reverse osmosis to meet the proposed CTR limits for copper. Based on this modification, we estimate that our potential annualized costs for compliance will be approximately \$900,000. These costs are significantly higher than EPA's estimated costs per plant of \$27,000 per year to \$480,000 per year. Thus, we strongly believe that the draft Economic Analysis significantly underestimates the potential statewide costs associated with adoption of the CTR and should be revised.

Response to: CTR-045-012a

See responses to CTR-056-018 and CTR-045-012b.

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Comment ID: CTR-052-006  
Comment Author: East Bay Dischargers Authority  
Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01d Direct Dischargers

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

**CROSS REFERENCES**

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Comment: EPA has greatly underestimated the costs of compliance in the EA. Information developed by CASA and Tri-TAC for just 23 POTWs indicates that annualized costs for those facilities may reach \$400,000,000. These are the 23 plants that have had the opportunity to fully review their effluent data. Using this cost data, and extrapolating it for all affected California POTWs leads to a potential cost ranging from \$570,000,000 to \$995,000,000, depending on the assumptions used.

Response to: CTR-052-006

EPA disagrees with the \$400 million cost estimate, however, neither EBDA nor CASA/Tri-TAC provide any details of the CASA/Tri-TAC analysis (e.g., names of the 23 major POTWs, the pollutants assigned costs, and cost estimation methodology), thus EPA cannot evaluate the \$400 million cost estimate. In CASA/Tri-TAC's comment, Attachment 1 notes that CASA "assumed that regulatory relief options may not be available, and that, based on the pollutants causing compliance problems, pollution prevention and treatment plant optimization might not be sufficient to reliably achieve compliance." However, CASA/Tri-TAC did not provide any data substantiating this assumption. EPA's cost estimate in the Economic Analysis (EA) of the final CTR for all California POTWs affected by this rule ranges from \$7.8 million to \$41.6 million in the low and high cost scenarios, respectively. EPA stands by its cost estimates provided in the EA of the final CTR which is based on available permit, permit application, and effluent monitoring data evaluated using a cost decision methodology which allowed for a case-by-case evaluation of costs for a sample set of facilities.

See also response to CTR-040-039.

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Comment ID: CTR-052-011

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01d Direct Dischargers

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

**CROSS REFERENCES**

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Comment: Impact on East Bay Dischargers Authority Ratepayers

The Authority and its member agencies serve approximately 700,000 people in southern and eastern Alameda County. Using an annualized cost of \$44,257,000 results in an annual cost of \$63.22 per person per year. Using an average of 3.25 persons per household results in an annual cost of \$205.48 per household per year. Current sewer rates for Authority agencies are as low as \$113 per year. Compliance

with the CTR would result in a new sewer rate of \$318.48, or an increase of 282%. Clearly, the costs do not justify the benefits.

Response to: CTR-052-011

EPA disagrees with the \$44 million annualized cost estimate for Alameda County, however, EBDA does not provide any details of how this cost was estimated (e.g., pollutants requiring reductions, pollutant concentrations, treatments required), thus EPA could not evaluate the cost estimate. EPA's cost estimate in the economic analysis of the final CTR for all California POTWs ranges from \$7.8 million to \$41.6 million annually in the low and high cost scenarios, respectively. EPA stands by its cost estimates provided in the EA of the final CTR which is based on available permit, permit application, and effluent monitoring data evaluated using a cost decision methodology which allowed for a case-by-case evaluation of costs for a sample set of facilities.

See also responses to CTR-056-018 and CTR-005-004.

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Comment ID: CTR-066-016  
Comment Author: Delta Diablo Sanitation Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01d Direct Dischargers  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: The areas with which we find concerns and the requested changes include the following:

\* Based on our very preliminary analysis of the impacts of the proposed CTR, we will need to add at a minimum reverse osmosis treatment at the regional plant to meet the rulemaking. Based on this modification, we estimate that our potential annualized costs for compliance will be \$10,250,000. These costs are significantly higher than EPA's estimated costs per plant of \$27,000 per year to \$480,000 per year. Based upon this finding, we strongly believe that the draft Economic Analysis significantly underestimates the potential statewide costs associated with adoption of the CTR and should be revised.

Response to: CTR-066-016

See responses to CTR-056-018 and CTR-045-012b.

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Comment ID: CTR-081-005b  
Comment Author: West County Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01d Direct Dischargers

References:

Attachments? N

**CROSS REFERENCES E-01d**

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Comment: \* Based on the comments at the hearing of September 17, and our own estimates, the EPA's economic analysis has serious flaws and does not reflect the full costs for implementation of the CTR. The comments of the California Association of Sanitation Agencies should be given significant weight in this regard.

\* For example, the WCA plants will not be able to meet the new criteria for copper, lead, and nickel, as well as some organics. This is true even after maximizing source control, pollution prevention, and process control improvements. Both our plants would need additional "end-of-pipe" treatment, such as reverse osmosis.

\* Based on our analysis of the proposed CTR, we will need to implement reverse osmosis in order to meet the requirements of the proposed CTR. Based on this, we estimate that our potential annualized costs for compliance will be \$11,220,000. These costs are significantly higher than EPA's estimated costs per plant of \$27,000 to \$480,000 per year. Thus, we believe strongly that the draft Economic Analysis significantly underestimates the potential statewide costs associated with adoption of the CTR and should be revised.

Response to: CTR-081-005b

EPA disagrees that its Economic Analysis (EA) underestimates costs. West County Agency does not provide the details of their \$11.2 million cost estimate, thus EPA cannot evaluate its validity or conduct its own analysis. Based on EPA's sample of 14 POTWs in California, EPA predicts that the state-wide cost impact on POTWs would range from \$7.8 million to \$41.6 million per year. See the EA for details on the EPA's methodology and costs.

See responses to CTR-056-018, CTR-004-003, and CTR-045-012b.

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Comment ID: CTR-082-010

Comment Author: City of Burbank

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: E-01d Direct Dischargers

References:

Attachments? N

**CROSS REFERENCES**

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Comment: The subject rule has a significant impact on our facility discharge and the citizens of the City. We therefore present the following comments for your consideration to re-open the comment period for this rule in order to facilitate a more complete review by public and in particular by those in the POTW community:

\* Based on our analysis the impact of the USEPA proposed CTR will need significant in-plant

modifications, changes in effluent disinfection practices, and possibly incorporating nitrification and de-nitrification processes to fully comply with the proposed CTR. Based on these modifications, we estimate that our potential annualized costs for compliance will be around \$5,900,000. These costs are significantly higher than USEPA's estimated costs per plant of \$27,000 to \$480,000 per year. Therefore we strongly believe that the draft economic analysis significantly underestimates the potential statewide costs associated with adopting the CTR and should be revised.

Response to: CTR-082-010

See responses to CTR-056-018 and CTR-045-012b.

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Comment ID: CTR-085-019

Comment Author: Camarillo Sanitary District

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: E-01d Direct Dischargers

References:

Attachments? N

CROSS REFERENCES E-01n

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Comment: The District supports the following positions of CASA and SCAP where changes need to be made in the proposed California Toxics Rule:

Based on the District's analysis of the impact of the proposed California Toxics Rule, the District will need to add reverse osmosis to existing treatment processes to meet the proposed California Toxics Rule. Based on this modification, it is estimated that our potential annual costs for compliance will be \$2.97 million, including retirement of capital. This cost is significantly higher than the EPA's estimated costs per plant of \$27,000 per year to \$480,000 per year. Thus we strongly believe that the draft economic analysis significantly underestimates the potential costs associated with adoption of the California Toxics Rule and should be revised.

Response to: CTR-085-019

See responses to CTR-056-018 and CTR-045-012b.

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Comment ID: CTR-089-005

Comment Author: Las Virgenes Mncpl Water Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: E-01d Direct Dischargers

References:

Attachments? N

CROSS REFERENCES

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Comment: While the draft regulations demonstrate clear progress on these and other issues, there remain some unresolved problems that could compromise our ability to serve our customers. We offer these comments in the hope of minimizing those potential impacts.

#### Adequacy of the Economic Analysis

We are, quite frankly, astounded that the draft CTR asserts negligible economic impacts as a result of the proposed regulations. Even a cursory examination of the criteria contained in the draft CTR suggest economic impacts well-beyond those assumed by the US EPA's economic model. These include over \$650,000 in estimated annualized costs to abandon existing chlorine disinfection facilities and replace them with some other disinfection method such as ultra-violet radiation or ozone, or the addition of GAC filters or air-stripping towers. Each of these modifications may create new and additional compliance problems with other state and federal regulatory requirements and standards, with unknown costs to mitigate them. Clearly the potential magnitude of these economic impacts argues against the use of a generalized model for estimating statewide impacts.

#### SUMMARY

We hope these comments will help to make the final CTR a better document and a better law. Overall, the draft CTR reflects substantial thought and effort on how best to implement the Clean Water Act's mandate of reducing pollutant discharges to the nation's receiving waters. The draft CTR clearly advances this goal, but our hope is that those agencies and parties most-directly affected by it will be allowed additional time to review it to their satisfaction. We strongly encourage a more detailed assessment of the actual economic impacts that could result from these new regulations. The ability of public utilities to fund new projects has never been lower, and every rate increase requires sound and well-founded justification. No ratepayer should be asked to shoulder the cost of new regulations without a clear and detailed explanation of what it is going to cost, and what benefits will result. State mandated costs require state funding.

We appreciate this opportunity to comment on the draft California Toxics Rule. Please do not hesitate call myself or Dr. Randal Orton in our Resource Conservation and Public Outreach Department to tell us how we can help you further.

Response to: CTR-089-005

EPA disagrees with the \$650,000 cost estimate to install a new disinfection method or additional treatment that will control chlorination/disinfection byproducts (DBPs) as EPA did not estimate that any sample facilities would need to install new equipment in order to ensure compliance with CTR-based effluent limits for DBPs. Of the 27 sample facilities examined, EPA assigned costs to 7 facilities for process optimization and to 4 facilities for pollution prevention efforts to control DBPs. EPA's estimated costs for process optimization for the sample facilities range from \$25,000 to \$230,000 depending on the size of the facility. Estimates for pollution prevention included costs for other, non-disinfection related pollutants and ranged from \$50,000 to \$2 million.

See response to CTR-035-061 and CTR-003-013.

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Comment ID: CTRH-001-027  
Comment Author: Michelle Pla  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: S.F. Public Utilities Com  
Document Date: 09/17/97  
Subject Matter Code: E-01d Direct Dischargers  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: We're very concerned about the economic analysis. We understand that you can -- this is based on federal orders, executive order and some legislation, in that this is not the normal thing that you do, but we're really concerned that there are some really real significant flaws here.

I'm also very concerned that there's some real misleading of the people of California of what it's going to cost the water bodies in the state to meet these levels. And to say that you think it's going to be 84 million a year is entirely misleading.

It really concerns me that people are going to glom on that number, say, "Gee, this isn't going to cost us much," if you believe that economic analysis. There's very few sources of pollution which you address with the \$84 million. It is not looking at the sources and not looking at actually getting those water bodies to those levels. So I would really recommend that you be really careful about those numbers.

Put yourself in my situation. We know in San Francisco that we're going to have a problem meeting aldrin peaks (phonetic) and the dioxin.

We think -- we don't have exact numbers on this right now, but we think that if we have to go to a worst-case scenario -- in other words, if we cannot meet those numbers with source control, we cannot meet those numbers by alternatives, we'll have to -- have to go to carbon or something like this. That could cost \$100 million in -- up to 100 million in coastal costs, and \$1 million in O & M a year.

Now, I'm going to go to my board of supervisors and say, "Please allow me to pass a bond issue so that I can meet these discharge requirements for discharge to the San Francisco Bay." We're not talking about the Pacific ocean now, just the bay.

And they say to me, "If we give you that money to build those facilities, will the people that fish in the San Francisco Bay, that live in San Francisco, be able to eat the fish?"

And I'm going to say no. I can't guarantee that, because we're a minor source. We're less than 20 percent of 4 percent of the total sources of discharge to San Francisco Bay.

So I think you need to be careful about how you throw these numbers around, because it's going to put us in a position of never being able to do anything either.

You need to think about this economic analysis, because I don't think it's real. And I don't think the benefits that you've shown either are very real, and we'll make more extensive comments in our written form on that.

Response to: CTRH-001-027

See responses to CTR-054-013a, CTR-035-057, and CTR-038-003.

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Subject Matter Code: E-01d01 Cost Estmte by Commenter

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Comment ID: CTR-005-004

Comment Author: Novato Sanitary District

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/23/97

Subject Matter Code: E-01d01 Cost Estmte by Commenter

References:

Attachments? Y

**CROSS REFERENCES**

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Comment: 3. The proposed rule could cost the District between \$2.7 and \$7.1 million per year without providing significant benefits. The current Basin Plan for San Francisco Bay does not allow dilution for shallow water dischargers. A review of the Draft Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, September 12, 1997, indicates that the draft policy would allow the current Basin Plan dilution policy to continue. Under the zero dilution policy and other historic permitting practices of the San Francisco Bay Regional Board (e.g., the Board has not considered translators in establishing permit limits), the District would be unable to comply with the proposed copper criteria for aquatic life protection (CMC and CCC), the proposed nickel criterion for aquatic life protection (CCC), and the proposed human health criterion for mercury.

The District, in 1996, made a thorough analysis of the costs and benefits of complying with the proposed copper criterion of 3.1 ug/l dissolved copper and the 4.9 ug/l site-specific objective developed by the Regional Board staff. That analysis indicated that the least costly alternative to comply with these objectives would be to construct a deep water outfall at a capital cost of \$28 million and a total annual cost of \$2.7 million. This would have the effect of doubling our current sewer service charges. The deep water outfall would not reduce the mass of copper discharged to the Bay. The sole benefit would be to achieve the copper criterion in the immediate vicinity of the outfall (the area affected is on the order of 0.6 acres).

The next most cost-effective alternatives were to go to land disposal or reverse osmosis treatment, both of which would have a total annual cost of \$7.1 million. These alternatives would reduce the mass of copper discharged to San Pablo Bay by only 0.16%. The cost per toxic pound equivalent removed for the deep water outfall is infinite, since no copper would be removed. If one were to assume that the copper discharged to deep water is removed, the cost per toxic pound equivalent removed would be \$8,470/lb. For the alternatives that actually remove copper from the Bay, the cost per toxic pound equivalent removed would be \$22,300/lb for land disposal and \$28,500/lb for reverse osmosis. The detailed report containing this analysis is presented in Attachment 1.

In conclusion, the adoption of the proposed copper criteria for San Pablo Bay could, under the high-end cost scenario of State implementation, result in very high costs without providing any significant water quality benefit. The District would concur that the low-end cost scenario could be zero (i.e., if the Regional Board were to allow a dilution credit and metals translators).

Response to: CTR-005-004

The Novato Sanitary District estimate is out of the range of the costs EPA estimated for the same

industrial category and within the same range of discharge flow. However, the information submitted by the District is not sufficient to compare the facility with sample facilities of the same industrial category and flow range because existing permit limits for copper, nickel and mercury are not indicated in the comment supporting documentation. However, review of the NPDES permit issued in 1992, which was to expire in 1997, indicates that final effluent limits for copper, nickel and mercury are 2.9 ug/L, 8.3 ug/L, and 0.03 ug/L, respectively. Even though Novato was not a sample facility evaluated by EPA, it appears that these limits are likely to be more stringent than CTR-based limits that would be calculated for this facility using standard U.S. EPA implementation procedures such as those EPA assumed for the CTR EA. In the case of nickel, for example, the most stringent CTR criterion (dissolved) is 8.2 ug/L and a metal translator would be used to convert this criterion to total. Consequently, the CTR-based criterion would likely be less stringent than the existing limit and no costs would be attributed to the rule. In the case of mercury, the 1992 limit of 0.03 ug/L is already more stringent than a projected CTR-based limit of 0.05 ug/L.

If a facility chooses to calculate permit limits with consideration of metal translators or water effect ratios, the facility will not likely need to implement high cost alternatives such as deep water outfall, land disposal, or reverse osmosis. Moreover, U.S. EPA is aware that the use of metal translators to implement water quality criteria for metals does not constitute a regulatory relief alternative under the proposed Inland Surface Waters Policy. In practice, the use of metals translators may be a standard step for the calculation of effluent limits in the State of California and consistent with EPA's policy concerning the implementation of dissolved water quality criteria.

EPA did not calculate a per household cost as part of the CTR analysis. By dividing the POTW portion of the revised high-end cost estimate (\$41.6 million) by the State's current estimated number of households in California (11.1 million) results in an estimated cost of \$3.75 per household per year. It is unknown, however, whether all of the costs incurred by POTWs would be passed directly on to households. Nonetheless, EPA believes that \$3.75 per year is not an unreasonable rate increase to protect the waters of the State of California.

See also responses to CTR-005-001 and CTR-040-031.

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Comment ID: CTR-035-044b  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01d01 Cost Estmte by Commenter  
References:  
Attachments? N  
CROSS REFERENCES E-01c01  
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Comment: pp. 42188-42189 - Potential Costs Do Not Meet the \$100 Million Threshold Under E 0. 12866 (also see discussion above) As noted on p. 42188, one component of the definition of a "significant regulatory action" is that the rule may have an annual effect on the economy of \$100 million or more. EPA states on p.42189 that "the annualized potential costs that direct and indirect dischargers may incur as a result of State implementation of permit limits based on water quality standards using today's

proposed criteria are estimated to be between \$15 million and \$87 million." We believe that this range significantly underestimates the potential costs that may be realized from the implementation of this rule. This belief is based on the numerous assumptions used by EPA that would have served to underestimate potential costs, including assumptions about regulatory flexibility that are clearly contradicted in the Preamble to the rule itself. These issues are further enumerated in Attachment 2, which contains an analysis prepared by the environmental economics firm, M. Cubed. Furthermore, we strongly believe that EPA has a duty to look at a full range of potential costs that may be incurred, and not just to look at the costs under optimistic assumptions. This duty is especially acute in light of the uncertainties of how the CTR will be implemented by the State.

We examined the potential costs for the POTW sector to determine the reasonableness of EPA's cost estimates. Our preliminary analysis indicates that for 23 major POTWs the annualized costs could reach \$400 million.\*3) This estimate includes the cost to construct and operate end-of-pipe treatment processes where these would be necessary to achieve projected effluent limits. Unlike the EPA cost estimates, we have assumed that regulatory relief options may not be available, and that, based on the pollutants causing compliance problems, pollution prevention and treatment plant optimization might not be sufficient to reliably achieve compliance. Thus, we feel that this estimate reflects a more accurate depiction of the potential POTW "high-end" compliance costs that could result from the draft CTR. Based on this analysis, we believe that EPA should re-analyze the potential costs for POTWs to meet water quality-based effluent limits based on the criteria in the CTR.

As noted on p. ES-2 of the Economic Analysis (U.S. EPA, 1997a), EPA estimated only the costs to point sources, and did not estimate the potential costs for compliance for nonpoint source dischargers, despite the fact that the majority of water bodies in California are impaired due to nonpoint source discharges (SWRCB, 1996). In addition, EPA failed to estimate the costs of compliance for wet weather dischargers, such as municipal and industrial stormwater dischargers. These omissions also lead us to believe that the potential total costs of the rule are far greater than \$100 million. EPA must correct these deficiencies and redo the Economic Analysis.

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(\*3) Backup information for these cost estimates is available upon request.

Response to: CTR-035-044b

See responses to CTR-021-005c, CTR-032-004, CTR-004-003, CTR-040-039, and CTR-021-006b.

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Comment ID: CTR-038-003  
Comment Author: Sonoma County Water Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01d01 Cost Estmte by Commenter  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: As background, the Sonoma Valley County Sanitation District (District) provides secondary

treatment of wastewater from the towns and communities of Sonoma, Glen Ellen, Boyes, Hot Springs and Aqua Caliente. These are small residential communities with supporting commercial development and only two significant industrial users, a winery and a State hospital. The plant serves a combined population of approximately 26,000, has a capacity of 3.0 million gallons per day (mgd). Between November 1 and April 30 of each year, the plant discharges effluent to the upper end of Schell Slough. During the remainder of the year the effluent is reclaimed for agricultural irrigation. Schell Slough extends approximately 5 miles downstream from the discharge before it terminates at its confluence with Second Napa Slough. Approximately 5.7 miles of waterways connects the Schell Slough system / Second Napa Slough confluence to both the Napa River and San Pablo Bay.

Under the Basin Plan dilution policy, the treatment plant discharge to Schell Slough does not receive a dilution credit, and as a result receiving water criteria are applied directly as effluent limitations in our permit. The District has conducted a dilution analysis using a model of Schell Slough and downstream waters (see attachment). The analysis found that during periods of low natural runoff, the discharge receives a 1:1 dilution about 3 miles downstream and a 10:1 dilution shortly after entering Second Napa Slough 5 miles downstream.

The District has implemented a pollution prevention program. As a result of a corrosion control program implemented by our agency, copper levels in the plant effluent have been reduced from over 40 ug/l several years ago to between 10 and 20 ug/l today. Based on studies conducted by the Novato Sanitary District, which has the same water supply and similar effluent copper levels, it can be concluded that the remaining copper levels in the Sonoma plant effluent are largely the result of corrosion of copper pipes in local households and businesses. Thus, there are no feasible pollution prevention measures that can be taken to bring about further source reduction of copper.

The District has recently conducted an effluent monitoring program to assess compliance with EPA-recommended water quality criteria, using clean sampling techniques and appropriate QA/QC. We are conscious of the difficulty of analyzing for certain constituents and have taken precautions to ensure that we get accurate results. For example, in the case of mercury, we are using ultra clean sampling techniques and sending our samples to Frontier GeoScience, the recognized national expert in mercury analysis. This sampling program has identified several significant attainability problems with respect to the proposed CTR criteria.

3. The proposed rule could cost the District approximately \$7 million per year without providing commensurate environmental benefits. The current Basin Plan for San Francisco Bay does not allow dilution for shallow water dischargers. A review of the Draft Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, September 12, 1997, indicates that the draft policy would allow the current Basin Plan dilution policy to continue. Under the zero dilution policy and other historic permitting practices of the San Francisco Bay Regional Board (e.g., the Board has not considered translators in establishing permit limits), the District would be unable to comply with the proposed aquatic life criteria for copper (CMC and CCC) and the proposed human health criteria for mercury, alpha-BHC, gamma-BHC (lindane) and bromodichloro-methane (see Table 1). Based on constituents detected in 1 or 2 of the 6 samples, one PAH (indeno (1,2,3-cd)pyrene) and several pesticides (chlordan, 4,4'-DDT, and endrin) may also present attainability problems (see Table 2). To achieve the CTR criteria for these constituents would require reductions of greater than 80% for copper and reductions of between 49% and 75% for mercury, and between 83% and 98% for alpha-BHC and gamma BHC. Such reductions would require tertiary lime precipitation and reverse osmosis for mercury and copper and carbon adsorption for the organics. The costs of these facilities for a 3.0 mgd plant would be on the order of \$7 million per year (\$5 million per year for lime precipitation and reverse osmosis and \$2 million per year for carbon adsorption)(see Table 4).(\*1) This compares to the present

District budget for all functions of approximately \$5 million per year. These costs would have no measurable benefit on San Francisco Bay proper because the District's discharge constitutes such a small portion (less than 1%) of the municipal discharge to the Bay and according to the EPA economic analysis, point source discharges contribute only 1% to 11% of the total toxic loading to the Bay. Thus, the District contributes between 0.01% and 0.1% of the toxic pollutant load to the Bay. The sole benefit of the costly end-of-pipe facilities necessary to achieve compliance with the CTR criteria would be to achieve the criteria in Schell Slough, before it enters Second Napa Slough. The District is willing to pursue source control and other reasonable measures to reduce the discharge of these constituents, but the costs necessary to achieve the proposed CTR criteria in-stream do not appear commensurate with the benefits. Although the District has not calculated the cost per toxic pound equivalent that would be removed by such facilities, the cost would likely exceed by an order of magnitude the \$200 - \$500 cost triggers for regulatory relief, which EPA used in its economic analysis.

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(\*1) The District's current permit contains a number of effluent limits based on the old State Plans. However, those effluent limits are not legally enforceable in that they were based on water quality plans that were determined by the court to be illegal. For that reason, it would be inappropriate for EPA to assume that adoption of criteria similar to those in the old State Plans would have no effect on the District.

Response to: CTR-038-003

The Sonoma Valley County Sanitation District (District) stated that the CTR could cost the District approximately \$7 million per year without providing commensurate environmental benefits. This estimate is based on the assumption that projected CTR-based permit limits would be derived using historic Regional Board permitting practices, which do not provide dilution and do not use metal translators to derive permit limits. The District estimated that tertiary lime precipitation and reverse osmosis would be required for mercury and copper, and that carbon adsorption would be required for organic constituents such as alpha-BHC, gamma-BHC (lindane), bromodichloromethane, indeno (1,2,3-cd)pyrene, chlordane, 4,4'-DDT, and endrin.

The documentation the District provided, however, is not sufficient for EPA to determine whether the District's estimate is consistent with EPA's estimates for sample facilities of the same industrial category and flow range. In particular, the District would need to provide facility engineering data, existing permit limits, and effluent data for the pollutants of concern. The documentation submitted by the District provides only maximum effluent concentrations. EPA is aware, for example, that other dischargers to San Francisco Bay tributaries (e.g., Novato District) have been assigned copper and mercury NPDES limits that are more stringent than projected CTR-based effluent limits (see response to CTR-005-001). When existing effluent limits are as stringent or more stringent than projected CTR-based limits, no costs are attributed to the CTR because the State has the authority under the Clean Water Act to implement water quality standards in a more stringent manner than is required under federal regulations and guidance.

EPA also noted that the District's analysis was based on effluent data that were reported between November 1996 and April 1997 (6 months) and comprise only six observations per pollutant. These effluent data are limited and may not reflect typical discharge conditions. A drought during a particular year, for example, may induce people to use more pesticides; thus impacting effluent quality. Such may be the case in the use of alpha-BHC and gamma-BHC (lindane) which were detected in the effluent at concentrations greater than the projected CTR-based limits. Estimates based on effluent data collected over three consecutive years would be more appropriate in establishing the most effective compliance

strategy. Despite the limited information submitted with the District's comment, EPA believes that the District's estimate is based on implementation assumptions that are different from EPA's assumptions which follow the Technical Support Document for Water Quality-based Toxics Control (EPA, 1991). If the District is analyzed using EPA's methodology and implementation procedures, the facility's potential compliance costs will most likely be insignificant.

With respect to the District's comment that it is not feasible to implement pollution prevention measures for further source reduction of copper, EPA acknowledges that source reduction alternatives may, indeed, not be feasible for all dischargers and pollutants. In the case of copper, for example, the information submitted by the District suggests that its most cost-effective compliance strategy would be to develop a site-specific metal translator and a water-effect ratio. According to the CTR, these two implementation options are acceptable and would not result in significant costs. However, significant costs that result from nonstandard implementation practices should not be attributed to the CTR as is done in the District's analysis.

EPA disagrees with the District's assumption that tertiary lime precipitation and reverse osmosis would be necessary for mercury compliance. The District indicated that the facility receives discharges from a State hospital. EPA has information on mercury levels from hospitals, clinical laboratories, and medical waste incinerators which indicates that hospital facilities discharge mercury at levels up to 15 ppb (EPA compiled two documents which are available in the record for this rule: Overview of Pollution Prevention Approaches at POTWs and Pollution Prevention at POTWs, Resources List). There are some potential other sources which could also be addressed with pollution prevention programs to assure a facility would be in compliance with projected CTR-based limits. Based on EPA's costing methodology, pollution prevention is assumed sufficient for compliance when a pollutant is reported below method detection levels and the projected effluent limit is below method detection levels.

The District also indicated that four organic constituents, indeno(1,2,3-cd)pyrene, chlordane, 4,4'-DDT, and endrin were detected in one or two samples at concentrations greater than projected CTR-based limits. Based on EPA's costing methodology, one or two exceeding values out of six total observations would not be conclusive enough to assume treatment costs. Because the available data is not sufficient to justify addition of treatment, and because the District does not indicate having pursued any source reduction efforts for organic constituents (i.e., no information is provided in the comment), EPA estimates that pollution prevention would be a reasonable pollution control strategy for organic constituents. Examples of the successes of POTWs awareness and education campaigns regarding the use and discharge of products containing toxic substances are presented in EPA's Overview of Pollution Prevention Approaches at POTWs and Pollution Prevention at POTWs Resource List, which are available in the record for this rulemaking.

EPA also noted that the District's \$7 million annual cost estimate was based on capital costs that are considerably higher than those estimated by EPA. EPA's costs are based on those found in the Treatability Manual Volume IV, Cost Estimating (U.S. EPA, 1980) and adjusted to current dollars using an Engineering News Record index of 1.9. The District indicated that the total capital costs for a reverse osmosis and chemical precipitation system would be \$18.9 million compared to EPA's estimate of \$5.7 million. EPA believes that its capital cost estimates are reasonable.

Finally, EPA disagrees with the District's statement that compliance costs for point source dischargers will not have measurable benefits on San Francisco Bay because of the relatively small toxic load contribution compared with nonpoint sources. EPA believes that controls on point source dischargers will contribute to attaining standards in the water body. As controls on nonpoint sources are also implemented, the water quality standards can be achieved. However, should the State determine through

a total maximum daily load (TMDL) allocation that controls on nonpoint sources are a more cost-effective approach to achieving standards, the State can redistribute the allocations through the TMDL process. Also note that it is the toxicity of the discharge that is important. That is, even a small discharge can result in increased risks, sediment contamination, and toxics loading.

See also responses to CTR-032-004, CTR-056-018, CTR-045-012b, CTR-040-026, and CTR-040-031.

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Comment ID: CTR-041-009

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01d01 Cost Estmte by Commenter

References:

Attachments? N

CROSS REFERENCES

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Comment: 4. Critique of SRCSD Case Study

General

The findings of the Sacramento case study are summarized in Appendix I-C.

The summary analysis flags three pollutants: mercury, aldrin and alpha-BHC as having a reasonable potential to exceed projected CTR-based WQBELs. Projections are then performed to determine a compliance cost related to achieving reductions necessary to comply with the CTR - based limits. This is accomplished by establishing a pound-equivalent reduction needed for each pollutant and relating this to estimated costs (taken from the " . . . Great Lakes Water Quality Guidance (April, 1993)). From this a cost-effectiveness ratio is established. For Sacramento, the data used results in a fairly low (favorable) cost-effectiveness (\$1.30/annual toxic load equivalent).

A review of the Sacramento case revealed significant problems with the data and assumptions used to derive the cost-effectiveness ratio. These have resulted in a gross underestimate of the ratio and bring to question the validity of the entire analysis. The main problems were use of questionable data without qualification and unsubstantiated assumptions in the cost to achieve compliance. The following details the concerns specific to each pollutant identified.

Mercury

In the analysis a pound-equivalent for mercury was determined using the following:

Regional Plant design flow of 181 mgd. Maximum single effluent mercury concentration of 0.360 ppb.  
Toxic Weight factor of 500

The total mercury discharge loading is then calculated by applying the design flow of the Regional Treatment Plant and the maximum effluent mercury concentration. It is further assumed this maximum value occurs on a daily basis resulting in a calculated 198 pounds mercury per year (or 99,177 pound

equivalents). This method severely overstates the amount of mercury potentially discharged or even existing in the system. A more appropriate method would be to use the mean concentration to calculate toxic-pound equivalence. Further, the 0.360 ppb value has previously been identified as an outlier.

#### Aldrin and Alpha BHC

The use of either of these compounds in the analysis is questionable based on a qualified review of the data.

The compound alpha-BHC has never been detected in all effluent testing performed. Due to the use of different analytical laboratories over the years, the laboratory detection level has varied. However, through 1996 only 1 case out of 41 samples had a detection level above the listed CTR-based limit. It was this one case that was used to perform the pound-equivalent evaluation and cost analysis for reduction for the Sacramento case study. However, based on sampling it is doubtful as to whether this pollutant is present in the plant wastestreams, since the results of testing using low-level detection limits has demonstrated nondetects significantly below the CTR-based limit. A similar case is made for Aldrin which has been detected only once in the effluent in all testing performed.

The case study applied the highest detection levels for each compound to determine the pound-equivalent reduction necessary to achieve compliance. Once again this grossly overestimates the amount of pollutants in the system. Further, it is stated in the case study that these compounds will be controlled through pollution prevention/waste minimization and a cost of \$400,000 assigned for both pollutants. The overstated pound-equivalent coupled with the unsubstantiated cost for control yields a relatively low cost-effectiveness ratio. However, it should be noted that both these compounds have been banned for at least a decade and therefore do not lend themselves to the techniques of pollution prevention since there is no identified point source.

Response to: CTR-041-009

See response to CTR-004-003.

EPA calculated pollutant loading reductions for each facility by calculating the difference between the baseline effluent concentration and the projected CTR-based effluent limitation. The approach for calculating the load reductions, therefore, varied depending on the costing scenarios.

For the low scenario, the following assumptions were used: No reduction was assumed if the difference between the baseline value and the CTR limitation was negative. If the existing effluent concentration was above the MDL but the CTR-based limit was below the MDL, the CTR-based limit, or one-half of the MDL (whichever produces a smaller load reduction) was used for the CTR-based effluent limitation. If the maximum reported effluent concentration exceeded the existing permit limit, high scenario assumptions were employed.

For the high scenario, the following assumptions were used: If all effluent data for a pollutant were reported below detection levels, the method detection level (MDL) was used as the maximum observed concentration. If the maximum observed concentration was below the CTR-based limitation, no loading reductions were considered. If the difference between the baseline value (existing permit limit or effluent concentration) and the CTR limitation was negative, zero reduction was assumed. If both the CTR-based WQBEL and the existing permit limit were below the analytical MDL, one-half of the difference between the existing permit limit and the CTR-based limit was used to estimate the pollutant load reduction. If the existing permit limit (or effluent concentration in the absence of a permit limit)

was above the MDL, but the CTR limit was below the MDL, the CTR-based limit, or one-half of the MDL (whichever produced a smaller load reduction) was used for calculating pollutant load reductions.

To determine the reduction in loadings, EPA converted the difference between the most stringent existing permit limit (or the maximum reported effluent concentration) and the most stringent CTR-based effluent limit (concentration) to pounds per year by multiplying this difference by the facility's average daily flow rate (design flow rate for municipal dischargers). EPA calculated annual pollutant loading reductions for each of the pollutants analyzed at each sample facility for which costs were estimated. The average load reduction then was calculated across sample facilities within each discharge category and extrapolated to the universe of facilities by multiplying the average load reduction by the total number of facilities in the category (EPA extrapolated facility specific costs similarly).

As indicated above, where pollutant monitoring data indicate detectable quantities of a pollutant, EPA used maximum effluent concentrations to estimate both pollutant loading and potential costs. Under this scenario, the methodology may result in overstating pollutant loadings and benefits. However, the assumption will also overstate compliance costs to reduce pollutant discharge concentrations. EPA chooses to err on the side of overstating costs to ensure that all potential costs are counted. EPA disagrees with the commenter's opinion that pollution prevention is not an appropriate treatment for these pollutants merely because they have been banned for some time. Lingering stockpiles or residential use of banned substances may still be releasing these pollutants into the environment and an aggressive pollution prevention program including source controls and public education should be successful in controlling these substances.

One exception, however, occurs under the low scenario. Where the Agency assumed that a facility would pursue regulatory relief, rather than end-of-pipe treatment, no load reduction is credited to the facility, while a nominal cost is incurred to pursue the regulatory relief. In other words, costs increase with no concurrent benefits.

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Comment ID: CTR-044-004  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01d01 Cost Estmte by Commenter  
References:  
Attachments? Y  
**CROSS REFERENCES**

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Comment: As background, the City of Woodland is a small community with a population of 43,250. We operate a 6.0 million gallon per day (mgd) secondary treatment plant which discharges to Tule Canal, a constructed agricultural drain located within the Yolo Bypass. Tule Canal is an effluent dependent water body. Except for periods when the Sacramento River overflows into the bypass, Tule Canal flows are dependent upon agricultural drainage and the plant effluent. During most of the year, canal flows are dominated by agricultural drainage.

In 1994, the City conducted an effluent and receiving water quality assessment. The purpose of the assessment was to characterize toxic pollutant levels in the plant effluent and the receiving water,

determine effluent dilution, and assess whether the discharge, had a reasonable potential to cause or contribute to an exceedance of either existing or potential water quality objectives for toxic pollutants. The toxic pollutant sampling was conducted using clean sampling techniques and proper QA/QC. In 1996, a supplementary sampling monitoring program was conducted to gather additional data on several of the toxic pollutants of concern. Based on the combined results of the 1994 and 1996 monitoring programs, the City concluded that there may be a reasonable potential for exceedance of several existing and potential toxic pollutant objectives (including aldrin). In that same year, the City developed a water quality compliance strategy to address the problematic toxic pollutants (see Exhibit A).

We have reviewed the proposed CTR and offer the following comments:

3. The proposed rule could cost the City approximately \$1.3 million annually without providing commensurate environmental benefits. The Regional Board does not allow the City a dilution credit and therefore we would have to achieve the aldrin criteria (and possibly other criteria) in our undiluted effluent. This would require that maximum observed aldrin levels (0.01 ug/l) be reduced by 98.6% (to 0.00014 ug/l). A reduction of this magnitude is not feasible through pollution prevention because only 4% of the aldrin has been identified as coming from industrial sources. Residential sources account for 55% and other unidentified sources account for 41 % (see Exhibit C). The least costly alternative for achieving an effluent limitation based on the aldrin criteria would be to remove the discharge from Tule Canal and construct a 7-mile outfall to the Sacramento River (where significant dilution exists). This would have a total present worth cost of \$9.4 million (see Exhibit A, Tables 5 and 6). This would translate to an annual cost of \$1.3 million per year (at 7% over 10 years) and would require about a 50% increase in monthly sewer service charges. This substantial cost would not produce measurable benefit on Tule Canal in that the canal is dominated by agricultural drainage, which contains pesticides and other toxic pollutants. For example, Tule Canal mercury levels upstream of the plant discharge have been measured at levels of 0.15 ug/l, three times the proposed CTR criterion for mercury (see Exhibit A, page 5). Irrespective of this, the City has developed a source control strategy for aldrin and other pollutants of concern (see Exhibit D). A major element of the strategy is the implementation of a pesticides outreach program, now underway (see Exhibit E).

Response to: CTR-044-004

EPA disagrees with the City of Woodland that a \$9.4 million construction project would be required to ensure compliance with the CTR-based limit for aldrin because pollution prevention cannot feasibly ensure compliance with the CTR-based limit. The City of Woodland's own analysis of aldrin effluent monitoring data (Larry Walker Associates, WPCF Water Quality Compliance Strategy, Task 14.4, November 1996) states that "significant uncertainty exists as to the actual amounts present." Aldrin was detected above the detection level of 0.006 ug/L only twice out of 13 data points (0.0063 ug/L and 0.01 ug/L). Since sampling data for aldrin are limited and generally reflect that aldrin is not detected, EPA would assign pollution prevention to ensure that aldrin levels remain below detection levels and in compliance with the CTR-based limit. Woodland's current pollution prevention program involves education and outreach, methods which can be successful in reducing residential and miscellaneous inputs of aldrin to the system. However, if Woodland's public education and outreach program does not produce the desired result, Woodland may need to better identify miscellaneous sources (41% of aldrin sources based on the Larry Walker report) for source control or other pollution prevention measures in order to control aldrin levels.

See responses to CTR-056-018 and CTR-021-008.

EPA acknowledges that it was unable to monetize all categories of potential benefits from the rule. EPA

provided a qualitative description of the expected benefits and those unmonetized benefits that may contribute most substantially to total benefits in the final Economic Analysis of the CTR.

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Comment ID: CTR-052-005b  
Comment Author: East Bay Dischargers Authority  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01d01 Cost Estmte by Commenter  
References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054  
Attachments? Y  
CROSS REFERENCES E-01i

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Comment: EPA has greatly understated the potential attainability problems associated with the CTR. This also includes numerous erroneous assumptions made in the EA, such as those described by BADA, CASA/Tri-TAC, and M.Cubed. Larry Walker Associates prepared an Attainability Analysis for the BADA agencies, copy attached. That analysis concluded that BADA agencies will not be able to comply with effluent standards for copper, nickel, pesticides (Aldrin and Heptachlor), and PAHs [Benzo(a)Pyrene, Dibenzo(a,h)Anthracene, and Indeno(1,2,3-cd)Pyrene]. Removals ranging from approximately 20% to nearly 90% will be required. Without major revisions to the CTR, the cost for compliance will be more than \$130,000,000 annually. These costs represent only the BADA agencies. Actual costs for all POTW dischargers to San Francisco Bay would be at least an additional 40%, bringing the total annual cost for San Francisco Bay ratepayers to more than \$185,000,000 on a strictly flow proportional basis. Since the non-BADA POTWs are significantly smaller, capital costs would actually increase due to loss of economy of scale. Therefore, actual costs for San Francisco Bay could easily exceed \$200,000,000 per year - all for the sole purpose of removing between 1-10% of the "Estimated Share of Toxic Loadings Attributable to Point Source."(\*1)

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(\*1) United States Environmental Protection Agency, Office of Water 4301, EPA-820-B-96-001, July 1997, Economic Analysis of the Proposed California Water Quality Toxics Rule, Executive Summary, Page ES-10, Exhibit ES-3. Estimated Share of Toxic Loadings to California Surface Waters Attributable to Point Sources.

Response to: CTR-052-005b

See responses to CTR-040-039 and CTR-052-005a.

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Comment ID: CTR-052-010  
Comment Author: East Bay Dischargers Authority  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01d01 Cost Estmte by Commenter

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

**CROSS REFERENCES**

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Comment: Cost Estimates for East Bay Dischargers Authority Compliance with the CTR

The following table summarizes the costs for compliance with the CTR. The costs are based on data and methodology used in the EA.

Pollutant	Remedy	Capital Cost	Annual O&M	Annualized Costs	(\$M)
pollution	NA	NA	0.057	prevention	copper
organics	carbon	116.4	19.4	44.2	adsorption
TOTAL		116.4	19.4	44.26	

Response to: CTR-052-010

See responses to CTR-032-004 and CTR-060-019.

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Comment ID: CTR-054-005

Comment Author: Bay Area Dischargers Assoc.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01d01 Cost Estmte by Commenter

References:

Attachments? Y

**CROSS REFERENCES**

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Comment: The proposed CTR contains several criteria that could result in annual costs for BADA agencies alone of between \$68 million and \$134 million per year. BADA has conducted an attainability analysis based on effluent data collected by BADA agencies over the past several years, ambient data collect as a part of the Regional Monitoring Program, and the current Basin Plan dilution policies. Both the effluent and ambient data were collected using clean sampling techniques and analyzed using proper QA/QC procedures. An initial review of the State Implementation Policy indicates that the policy would not result in any loosening of the current Basin Plan dilution policy and, in fact, could result in a more restrictive policy.(\*1) BADA's attainability analysis also assumed that an additional 10% reduction in problematic pollutants could be achieved through pollution prevention. The CTR economic analysis assumed a 10% to 25% reduction through pollution prevention, but BADA agencies have been implementing pollution prevention for years and would not expect significant additional reductions beyond those already achieved. All BADA agencies have extensive public education and pollution prevention programs and several have won national awards for their source control programs. BADA's analysis assumed that the Regional Board would accept and utilize metals translators developed in

accordance with EPA procedures. BADA used the RMP ambient data to develop the metals translators. BADA's analysis assumed lime precipitation would be utilized where metals removal was necessary and carbon absorption would be utilized where organics removal was necessary. BADA evaluated two lime precipitation scenarios, the addition of lime to primary tanks as EPA assumed in its economic analysis and tertiary lime treatment. BADA evaluated the cost of tertiary lime treatment because we believe EPA's assumption regarding the efficacy and cost of primary lime addition to be overly optimistic. BADA does not believe it is possible to achieve the low effluent values required to comply with the copper criteria through addition of lime to the primaries. Further, BADA believes EPA was incorrect in assuming that lime could be added to primaries without significant capital cost. Adding lime to primaries, at a minimum, would greatly increase the amount of sludge produced, thereby necessitating additional sludge handling and processing facilities. For these reasons, consultants have generally recommended tertiary lime treatment to achieve the effluent copper levels required to achieve the proposed criteria. Finally, BADA's analysis used 1996 costs, amortized at 7% interest over ten years, just as EPA did in its analysis. In estimating the cost of lime addition to the primaries, BADA used EPA's costs for lime treatment. The results of BADA's attainability analysis are presented in Attachment 2. The analysis shows that after pollution prevention all five BADA agencies would have problems complying with one or more of the proposed criteria. Three agencies would have problems with dissolved copper criteria for protection of aquatic life and two agencies would have problems with carcinogen criteria for protection of human health (aldrin, PAHs, or heptachlor). The estimated annual cost to achieve compliance varies between \$68 million and \$134 million per year depending on the assumption regarding lime treatment. The lower cost was based on EPA's assumption that lime could be added to the primaries to achieve the effluent limits without any capital cost. The higher cost was based on the assumption that tertiary lime treatment would be necessary to achieve the effluent limits. The lower costs include \$12 million per year for lime treatment to achieve the copper effluent limitations and \$56 million per year for carbon absorption treatment to achieve the effluent limitations based on carcinogens. The higher costs include \$78 million per year for lime treatment and \$56 million per year for carbon absorption treatment. Again, this is not a worst case scenario in that BADA assumed translators would be allowed (even though the Regional Board has not made it a practice to accept translators) and assumed continuation of the present dilution policy (even though the Draft State Implementation Policy would allow the Regional Board to deny dilution credits for deepwater dischargers).

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(\*1) For example, on page 13, the Draft Implementation Policy states: "The RWQCB shall consider denying or significantly limiting a mixing zone and dilution credit if the discharge contains pollutants that are carcinogenic, mutagenic, teratogenic, persistent, bioaccumulative, or attractive to aquatic organisms." Literally all POTW discharges contain pollutants such as mercury that are bioaccumulative and materials such as chloroform that are carcinogenic. Thus, the Draft Implementation Policy would allow the San Francisco Bay Regional Board to eliminate the 10: 1 dilution credit currently afforded to deep water dischargers.

Response to: CTR-054-005

EPA disagrees with BADA's cost estimates. EPA estimated costs to POTWs for the entire state of from \$7.8 million to \$41.6 million annually compared to BADA's estimate of \$68 million to \$134 million annually. As BADA points out in its comment, EPA uses a different standard when assigning pollution prevention costs (see response to CTR-004-003 for a discussion of EPA's methodology for applying pollution prevention costs). EPA's analysis assumes that facilities will try to meet CTR-based limits using the least cost option and, for loading reductions between 10% and 25%, EPA believes that pollution prevention or process optimization are the more likely options over end-of-pipe treatment.

In EPA's economic analysis for the final CTR, it assigned both lime addition to primary tanks and tertiary lime treatment based on individual facilities' existing treatment, CTR-based limits, and required loading reductions (see the response to CTR-040-032). EPA did consider sludge disposal where relevant and estimated residuals removal costs for those facilities.

The differences in load reductions (and thus the treatments considered necessary to meet CTR-based limits) between BADA and EPA's analyses result from different baselines in the two analyses. BADA uses a 99.9% probability estimate for metals and the maximum observed concentration for organics as its baseline to estimate loading reductions. EPA uses the existing NPDES permit limit or, in the absence of an existing limit, the maximum effluent concentration to estimate loading reductions which are then considered when assigning costs to reach the necessary load reductions.

EPA did not assign costs mechanically based on unrealistic guidelines and statistical procedures to predict worst-case effluent quality as a means for determining compliance as was done in the BADA analysis. EPA's cost decision matrix allowed for the consideration of the available data in the context of detection limits, facility processes, and potential irregularities in plant operations which might result in abnormally high data. EPA believes that its methodology is more accurate in its evaluation of data and its estimation of costs than the BADA methodology.

See also responses to CTR-054-013a, CTR-021-008, CTR-040-029a, CTR-056-018, and CTR-040-031.

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Comment ID: CTR-056-020

Comment Author: East Bay Municipal Util. Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: E-01d01 Cost Estmte by Commenter

References: Letter CTR-056 incorporates by reference letter CTR-054

Attachments? N

**CROSS REFERENCES**

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Comment: Given the limited time available to respond to the proposed CTR, an attainability assessment for one pollutant, copper, as the primary pollutant of concern for EBMUD was conducted (it should be noted that the District also has concerns over organic pollutants where detection limits are greater than the proposed criteria). The analysis was conducted and is presented as percentage reductions necessary to reach three levels of probability for achieving 4-day average limits:

\* 95% Probability would require a 0 to 7% copper reduction. The District believes that such reductions could be achieved within 0 to 5 years by continued focus on pollution prevention measures. Current costs for pretreatment are approximately \$570,000/year, and the cost of pollution prevention approximately \$546,000/year.

\* 99% and 99.9% Probability would require up to a 19% and 30% reduction respectively; this could only be attained through advanced treatment facilities beyond that which presently exists.

Since 1974, influent copper loadings have been reduced from 318 kg/day to 17 kg/day in 1996 (i.e.

94.7%). Pollution Prevention efforts since 1988 have resulted in a 39% reduction from 28 kg/day to 17 kg/day. In 1996 wastewater treatment resulted in a further reduction to an average effluent discharge of 5.2 kg/day. To reduce the discharge of copper by an additional 30% from 5.2 kg/day to 3.64 kg/day would result in a capital cost of \$42 million and an annual O&M cost of \$5 million per year. This is based on the assumption of having to treat approximately 30% of the plant flow (i.e. 22 MGD) to remove copper using the lime precipitation process. This estimate compares closely with an independent estimate of \$39.2 million capital cost and \$4.6 million per year operating cost performed at EBMUD's request by the consulting firm of Larry Walker & Associates.

If the EBMUD information is an example, there can be no doubt that the \$15 to \$87 million per year EPA cost estimate, which is supposed to have included debt service on capital investments, is a gross understatement of the true costs statewide.

Response to: CTR-056-020

See response to CTR-004-003.

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Comment ID: CTR-059-001

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01d01 Cost Estmte by Commenter

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES

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Comment: Historical monitoring data for the seven water WRPs have shown that plant effluent concentrations will not reliably meet the proposed CTR criteria for mercury, lindane and four trihalomethanes (bromoform, chlorodibromomethane, chloroform and dichlorobromomethane). Our preliminary evaluation of the feasibility of employing source control or pollution prevention as the principal compliance strategy indicates that these options are likely to yield only very small reductions in loadings for these pollutants. Thus, to ensure reliable compliance with the CTR, reverse osmosis (RO) at the Sanitation Districts' seven WRPs would be necessary. The preliminary cost estimate for providing RO at each of the seven WRPs is significant. The total annualized cost is approximately \$148 million. To put this into perspective, the addition of RO treatment would double or triple the single family home sewer system rates for the areas serviced by these facilities.

Response to: CTR-059-001

EPA is not able to evaluate LACSD's assessment that reverse osmosis (RO) is required at each of the WRPs which are not in compliance with the CTR-based limits because LACSD does not provide monitoring data or any other details with which EPA can perform an analysis. Thus, EPA disagrees with LACSD's \$148 million cost estimate for the WRPs. EPA estimates that costs to POTWs for the entire state will range from \$7.8 million to \$41.6 million. See responses to CTR-045-012b, CTR-004-003, and CTR-005-004.

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Comment ID: CTR-067-006b  
Comment Author: Ojai Valley Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01d01 Cost Estmte by Commenter  
References:  
Attachments? N  
CROSS REFERENCES R

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Comment: \* The EPA should reevaluate their determination under the Regulatory Flexibility Act that the rule will not have a significant economic impact on a substantial number of small entities. OVSD would be classified as a small entity, serving a population of 25,000, and would be significantly affected by the CTR. OVSD would have to further treat our effluent with reverse osmosis in order to comply with proposed CTR criteria, specifically for copper, nickel, zinc, lindane, and trihalomethanes; modifications to the existing plant would result in estimated increased annualized costs of \$1.98 million. These costs are significantly higher than EPA's estimated costs per plant of \$27,000 to \$480,000 per year. In addition, EPA must consider that OVSD's contingent of small businesses potentially will be affected by the proposed rule through increased regulation of their discharges, increased sewer discharge fees, or product bans. Thus we strongly believe that the EPA's Economic Analysis significantly underestimates the potential statewide costs associated with adoption of the CTR and should be revised.

Response to: CTR-067-006b

See responses to CTR-021-005c, CTR-056-018, and CTR-045-012b.

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Comment ID: CTR-070-002b  
Comment Author: Sewerage Agency of Sthrn Marin  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: E-01d01 Cost Estmte by Commenter  
References:  
Attachments? Y  
CROSS REFERENCES E-01w

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Comment: Economic analysis The attached table shows that implementation of the proposed limits will result in the reduction of SASM's copper limit from 37 ug/l to 12 ug/l. It is expected that reverse osmosis will be the most economical method to reach this level and that the cost of this operation will be approximately \$550,000 per year. This equates to a 30% increase in SASM's budget. This cost is also higher than EPA's estimated costs of \$27,000 to \$480,000 per plant per year. It appears that the Economic Analysis underestimates the potential statewide cost and should be revised.

Response to: CTR-070-002b

See responses to CTR-045-012b and CTR-070-002a.

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Comment ID: CTR-111-001  
Comment Author: City of Los Angeles  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 02/19/98  
Subject Matter Code: E-01d01 Cost Estmte by Commenter  
References:  
Attachments? Y

#### CROSS REFERENCES

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Comment: As discussed in the February 12, 1998 telephone conversation between Mr. Mitchell of your office and William Straub of my staff, enclosed for your information and use is a copy of an April 1992 report summarizing anticipated compliance efforts and costs that the City compiled in response to the State Water Resources Control Board's 1991 adoption of the Inland Surface Waters (ISWP). Although the compliance costs were estimated specifically for our DC Tillman Water Reclamation plant in Van Nuys, we believe that per-MGD unit costs are valid for our Los Angeles-Glendale Water Reclamation Plant as well (the estimated costs are summarized on Pages 11 and 12 of the report's Executive Summary).

As indicated in our oral and written comments (September 18, 1997 public hearing and September 26, 1997 letter), the proposed California Toxics Rule's July 1997 Economic Analysis (EA), based in part on the Tillman facility as a case study, misrepresented the true compliance cost impact to the City. The EA, in effect, compared the proposed criteria to the waste discharge requirements of the Tillman plant's existing NPDES permit and concluded that the cost impact would be minimal. However, the plant's 1991 permit was based on the ISWP, which itself anticipated the criteria contained in the proposed Rule. The Tillman plant was the only POTW in the region to be re-permitted using these criteria; because of mounting POTW discontent following ISWP adoption, (which ultimately led to the invalidation of the ISWP in 1994), all other POTW permits were renewed using Basin Plan objectives, PQLs and National Toxics Rule criteria. The 1991 Tillman NPDES permit renewal resulted in immediate compliance problems for the plant, and for this reason we believe that the EA cost figures should consider the cost impacts of the proposed Rule from a pre-1991 point of view. The enclosed report approaches these costs from that perspective.

Updated cost estimates for the City's Tillman and Los Angeles-Glendale reclamation plants were recently prepared by the Bureau's Industrial Waste Management Division in response to the release of the proposed Rule. These include:

\* Process optimization. Operational modifications to the Tillman and Los Angeles-Glendale plants necessitated by the proposed Rule involve capital costs in the range of millions of dollars and annual O&M costs between \$50,000 to \$200,000 per plant.

\* Pollution Prevention/Waste Optimization. Based on past outreach programs and pollution prevention studies, the proposed Rule would cost about \$500,000. In view of the present industrial discharger compliance rate (better than 95%), this effort might have only a marginal beneficial impact.

\* Pretreatment Program. Based on studies conducted in the early 1990's, the cost of each pollutant requiring local limits development is about \$15,000. Tables I and 2 (attached) summarize constituents which would be problematic under the proposed Rule. The cost of new local limits development for these pollutants would exceed \$250,000.

The EA also did not include actual costs incurred by the City resulting from compliance studies required by the Los Angeles Regional Water Quality Control Board. These included:

\* A numerical chronic toxicity limitation that resulted in 5 years of toxicity testing costing in excess of \$200,000 (other POTWs in the area were granted narrative toxicity limits);

\* Industrial source-controllability studies costing \$110,000 for methylene chloride, lindane and other pesticides that were determined to be of domestic origin and therefore not controllable by the plant;

\* Numerous and ongoing efforts on the part of the Bureau of Sanitation to obtain relief from the Los Angeles Regional Water Quality Control Board based on plant performance data demonstrating that ISWP-based limits were neither equitable nor achievable. We would greatly appreciate your consideration of these costs and the estimated costs contained in the enclosed report with respect to EA revision. If you should have any questions, or wish to discuss actual compliance costs incurred since 1991 in greater detail, please contact William Straub at (213) 485-1820.

Response to: CTR-111-001

See response to CTR-040-026.

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Comment ID: CTRH-001-044  
Comment Author: Charles Batts  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Bay Area Dischargers Assc  
Document Date: 09/17/97  
Subject Matter Code: E-01d01 Cost Estmte by Commenter  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: I don't want to go into what's presented in writing, but as a discharger, our first evaluative criteria of this rule was attainability.

Our analysis is based on the information from our member agencies, and it indicates that the ability of publicly owned treatment works to meet all the criteria is seriously questionable.

For the record, all the dischargers in BADA have extensive public education programs. We have pollution prevention programs. We have award-winning source control programs.

We base our analysis on using actual data that we filed with NPDES permits over the last two years and current regulatory criteria. All the agencies would have attainability problems.

Three agencies would have problems with dissolved copper, three agencies with the organic/carcinogenic compounds. And in fact, we believe as the detection limit approaches permit limits, that all agencies would violate the carcinogenic requirement.

At present, there is no data on these constituents in the environment, in the receiving waters, or in our influents. Most of the data is nondetectable, because of the limits of detection.

It assumes that pollution prevention can identify and control these organic compounds at below parts per trillion. That is highly speculative.

Despite the assumption made in the plan of regulatory relief, treatment has been the method used to remove pollutants from our waste water effluent. If the agencies have to remove copper by relying on lime precipitation, using EPA's own numbers which contain no capital cost for handling the solid material and sludge generated, which is no minor problem, would require considerable capital cost. It would cost our agencies on a yearly basis \$12 million.

To remove the organics that is required, it would require probably using technology like powdered activated carbon, and based on EPA estimates for this process, the cost to those agencies, just the three, would be \$56 million a year.

We believe that other of our agencies would probably be added as detection limits and the reporting limits are lowered, since MLs would offer only temporary relief, until the detection limits show that these organics are pervasive in the environment.

So just this attainability cost -- based on data of the last two years for five agencies serving three and a half million people in the Bay Area, the cost is \$68 million a year. That approaches the maximum cost projected for the state.

If we look at the projected benefits of the increased treatment and cost to our taxpayers, with point dischargers being less than 10 percent of the loading, and the lack of looking at the benefits analysis, we tend to lead people to believe that waters would meet these criteria based on just control of point sources. Actual or passive, one has to wonder what the benefits really are to the public.

If BADA agencies increase treatment to remove copper, for example, an additional 2,400 pounds of copper would be removed per year. That's about a 1 percent benefit to San Francisco. Since there is no data on carcinogenics we are talking about parts per trillion here -- the benefits become even more specious.

This analysis has not factored in more restrictive ambient background concentrations, water effect ratios, water hardness, et cetera. The hope of holding out ambiguous regulatory relief as a method of avoiding treatment costs does not seem consistent with the general trend of regulations, despite the mood of Congress or the public in general.

BADA agencies appreciate the work of EPA staff on the California Toxics Rule. We are willing to provide further data or case studies, if needed, to improve this document.

We have already, and will in the future, optimize and improve the treatment operations, increase pollution prevention and participate in studies to better define the course of action that should be taken to improve the environment and human health.

I thank you for letting me comment.

Response to: CTRH-001-044

See responses to CTR-054-013a, CTR-045-011, CTR-032-004, CTR-056-018, CTR-004-003, CTR-040-039, CTR-040-032, CTR-035-064, and CTR-029-015.

EPA acknowledged that increased angling activity at sites experiencing reductions in toxic contaminants may reflect a shift in activity from substitute sites rather than a net increase. Because EPA could not account for substitute sites in this analysis, EPA estimated lower bound benefits of \$0 (i.e., assuming no net increases in activity; see Chapter 8 of EA).

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Subject Matter Code: E-01e Indirect Dischargers

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Comment ID: CTR-021-011

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: E-01e Indirect Dischargers

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

**CROSS REFERENCES**

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Comment: The CTR Inappropriately Extrapolates the Results of Copper and Nickel Industrial Mass Audits to Project the Measures, Cost and Feasibility of Compliance with Organics Limits

The CTR cites the mass audit studies conducted by Sunnyvale and San Jose for copper and nickel as the basis for the estimated \$61,526 cost per significant industrial user (indirect discharger) affected by new permit limits. It is a significant extrapolation, if not distortion, to use the results of those studies to project pollution prevention and waste minimization costs for other constituents, particularly trace organics. Those studies did not address organics and there is minimal basis for assuming that the types of measures recommended to address copper and nickel, and therefore costs, and the number of affected industries (CTR assumes 10-30% of total SIUs) bears any relationship to the costs and numbers of organics from local sanitary sewer dischargers. The measures identified in the mass audits were also the easiest and most cost-effective to implement. In the instances where there were additional potential control measures identified, they were considerably more expensive. EPA ignores non-SIUs which may represent up to as much as 75% of POTW regulated industries.

Response to: CTR-021-011

See the response to CTR-040-037.

EPA disagrees with the commentor's assertion that the costs for San Jose and Sunnyvale cannot be used to extrapolate costs to indirect users at other POTWs. The procedures for identifying indirect sources contributing specific pollutants to POTWs and developing and implementing a source control plan to minimize these discharges are similar for all types of pollutants. Additionally, similar to San Jose and Sunnyvale, metals were the primary pollutants of concern for POTWs evaluated in the cost analysis. Apart from these studies, EPA has no data upon which to establish facility-level compliance costs for indirect dischargers. To account for this uncertainty, EPA has revised its assumption regarding the percentages of indirect dischargers that may incur these costs. The percentage of facilities that may incur these costs was revised from the initial estimate of from 10% to 30% to a new estimate of from 30% to 70%. EPA believes that these new estimates are highly conservative (i.e. tend to overestimate costs).

Average per facility investment costs for industrial participants were estimated using the mass audit studies for copper and nickel pollution prevention projects with paybacks of less than five years. The average cost per indirect discharger was estimated to be \$61,526 or \$15,000 per year at an interest rate of 7 percent and over a period of five years. The total annual costs to the indirect discharger population in California then were estimated by multiplying the annualized cost (\$15,000) by the total number of potentially affected indirect dischargers.

Under the MAS, the pounds removed by the pollution prevention projects with paybacks of less than five years were 560 pounds per year for copper and 148 pounds per year for nickel. Since neither San Jose nor Sunnyvale required nickel reductions under the water quality criteria in the final CTR, EPA did not consider pounds removed. Both San Jose and Sunnyvale did require copper reductions under the high-end cost analysis. For San Jose, copper reductions required to comply with the WQBEL equaled approximately 746 non-toxic-weighted pounds per year, however, for Sunnyvale, required reductions equaled 87 pounds per year. Thus, the MAS indicates that copper reductions would be adequate to meet Sunnyvale's required loading reductions, however, they would not be adequate to meet San Jose's required loading reductions.

EPA estimated the costs for POTWs to implement waste minimization/pollution prevention programs which included capital costs for source controls for indirect dischargers. This double counting of costs associated with waste minimization/pollution prevention will cover any new or additional pollutant reduction that is required of a POTW or indirect discharger to meet the WQBEL. The double counting may be more than enough as 90% reduction is not necessary under the rule, even in San Jose's case. Only a small additional reduction is required, thus, this additional capital could be used to reduce the copper load with controls at indirect dischargers.

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Comment ID: CTR-034-014c

Comment Author: SCAP

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01e Indirect Dischargers

References: Letter CTR-034 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES E-01g08

E-01b

E-01v

J

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Comment: \* In general, we are pleased that EPA prepared an analysis of the economic impacts of the proposed CTR, and that a major portion of EPA's work focused on determining the potential impacts on POTWs. However, we believe that this analysis is based on improper assumptions and inaccurate cost estimates, resulting in unconvincing conclusions. Detailed comments can be found in Attachment 2. A few of the areas of concern are listed below:

\* Small facilities appear to be under represented in EPA's sample of POTWS, especially for minor dischargers.

\* The cost triggers used as regulatory relief thresholds are unrealistic, and are not consistent with EPA regulations and policies.

\* The assumptions used to determine cost estimates for indirect dischargers appear to omit a large proportion of potentially affected industries.

\* The Economic Analysis does not take into account projected population and industrial growth over time, which may influence effluent quality and quantity. Statewide, the population is projected to grow by nearly 50% by 2020.

\* The use of average cost estimates masks economic impacts on individual dischargers, which may be particularly acute for small communities.

\* The economic Analysis ignores the costs that may be incurred by stormwater dischargers and nonpoint sources to reduce loadings so that CTR criteria may be met in ambient waters.

Response to: CTR-034-014c

See responses to CTR-032-004, CTR-035-061, CTR-021-006b, CTR-040-037, CTR-059-018, and CTR-035-048.

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Comment ID: CTR-035-008b  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01e Indirect Dischargers  
References:  
Attachments? N  
CROSS REFERENCES E-01g08  
E-01d  
E-01m  
E-01h  
E-01c

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Comment: Finally, we have serious concerns about the accuracy of the draft Economic Analysis and the estimates of the costs and benefits of the draft CTR (see detailed comments in Attachments I and 2). Our primary concerns related to the cost analysis include 1) that the case studies on which the cost analysis is based do not adequately represent the actual population of POTWs in California; 2) the omission of costs that could be incurred by many sectors that contribute to overall loadings, and, hence, can be expected to have to reduce their loadings (e.g., non-SIU indirect dischargers, municipal and industrial stormwater dischargers, agricultural activities, and other nonpoint sources of CTR-regulated pollutants); 3) the use of numerous assumptions that underestimate costs; and 4) the capricious removal of costs that exceed threshold values by assuming that regulatory relief measures will be granted, despite the lack of any proposed regulatory relief trigger in the proposed regulation.

To illustrate the degree of underestimation of costs for the POTW sector alone, we looked at potential compliance costs for the POTW sector. We found that the potential costs for 23 major POTWS. on an annualized basis, may reach \$400 million. We believe that this analysis demonstrates that the potential cost consequences of compliance with effluent limits based on the proposed CTR criteria would easily exceed the \$ 100 million annual cost threshold, especially when the costs of all 313 POTWs in the State are estimated. Thus, we believe that EPA must conclude that the proposed CTR could have significant economic impacts on local governments.

Response to: CTR-035-008b

See responses to CTR-021-005c, CTR-032-004, CTR-040-039, CTR-021-006b, CTR-040-037, and CTR-059-018.

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Comment ID: CTR-035-049  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01e Indirect Dischargers  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: pp. 2-38 - 2-39 (US EPA, 1997b) -- Cost Estimates for Indirect Dischargers By only including Significant Industrial Users (SIUs), EPA drastically underestimated the costs to indirect dischargers to POTWs, and thus to many of the industries of the State. EPA ignores non-SIUs, which may amount to as many as two-thirds of the permitted industries discharging to a POTW. EPA also does not take into account the businesses that POTWs might have to start regulating, such as dentists for source control of mercury, auto repair shops for metals, and veterinarians for pesticides used for flea control (e.g. lindane, diazinon), which could cumulatively number in the thousands. EPA also used assumptions about indirect dischargers based on an analysis of compliance costs for the Great Lakes Initiative, which showed that between 8 and 44 percent of indirect dischargers could be affected by new permit limits on POTWS. EPA used a range of 10 to 30 percent, based on that analysis. EPA appears to have done no analysis of California industries see what the distribution is by SIC code, and then determined what adjustments might be necessary to use a comparison to the Great Lakes States industrial base. Without this, there is simply no evidence that the assumptions used have any validity for the California economy. For instance, at least in some parts of California, a higher proportion of industries are indirect dischargers than is the case elsewhere in the country. Additionally, to estimate individual indirect discharger costs, EPA used figures based on studies in San Jose and Sunnyvale. EPA provides no rationale for extrapolating from a single area and a few limited types of industries to the wide range industries in California, which may have very different products, treatment processes, and waste streams. To do a credible cost analysis, EPA must thoroughly examine the impacts of the CTR on indirect dischargers in California.

Response to: CTR-035-049

See responses to CTR-021-011 and CTR-040-037.

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Comment ID: CTR-041-010c  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01e Indirect Dischargers

References:

Attachments? N

CROSS REFERENCES E-01n

E-01m

E-01g

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Comment: 5. Concerns Regarding Economic Analysis

The District also has several significant concerns with the Economic Analysis that was performed for the proposed rule. Concerns about the cost estimates made for both the District and the state are presented here. (See attached Review of EPA's Economic Analysis of the Proposed California Water Quality Toxics Rule.) Overall, the District believes that problems with the Economic Analysis are serious enough that it should be redone. As stated above in our analysis of assumed costs at the SRWTP, the use of questionable data without qualification combined with unsubstantiated assumptions regarding costs to achieve compliance resulted in a gross underestimate in the cost-effectiveness ratio. The District's first concern is that if the types of problems found in our Case Study are widespread in other studies, the complete analysis is suspect.

In addition to the analysis of the District's facilities, there are several other points which have been used by EPA to lead to a potentially serious understatement of actual costs. The key assumptions involved are that: 1) no costs would occur if either no monitoring data presently exists or if that data is below analytical detection levels; 2) no treatment costs would occur whenever EPA's initial estimates showed high costs, due to successful regulatory relief; 3) no costs are included for nonpoint sources such as municipal stormwater management systems; and 4) no costs are included for indirect dischargers to the District's system that are not large enough to be considered a Significant Industrial User (SIU).

Regarding the first assumption, the District has found that there is pressure from many sides, including the Safe Drinking Water Act, to both increase the number of constituents being monitored and to lower detection levels to meet numeric criteria set by EPA and the state. To assume that monitoring of these new constituents will not lead to any treatment cost increases is simply unrealistic. Similarly, the second assumption about absolute success in every pursuit of regulatory relief is also overly optimistic. There are no guarantees that pursuit of regulatory relief will be successful in any situation, and EPA indicates elsewhere in the preamble that options such as variances and site-specific criteria will rarely, if ever, be granted.

The third and fourth key assumptions ignore present dominating trends and facts, i.e. that prevention and control of pollutants at their sources, including very small indirect dischargers, storm runoff, and other nonpoint sources are now the major focus of EPA's wastewater programs nationally. While we agree that these management steps should be taken, there will be significant costs attached to the implementation of these steps that cannot be ignored.

Combined with concerns the District has heard from other sources such as the California Association of Sanitation Agencies (CASA), it appears that EPA has failed to make "a reasoned determination that the benefits of the intended regulation justify its costs." Therefore the District believes that the Agency is obligated to redo the draft Economic Analysis.

Response to: CTR-041-010c

See responses to CTR-032-004, CTR-021-006b, CTR-040-037, and CTR-003-011.

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Comment ID: CTR-056-022a  
Comment Author: East Bay Municipal Util. Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: E-01e Indirect Dischargers  
References: Letter CTR-056 incorporates by reference letter CTR-054  
Attachments? N  
CROSS REFERENCES S

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Comment: EBMUD perceives there to be a significant overall economic impact resulting from CTR, contrary to the conclusions reached by EPA. Because the cost may exceed \$100 million annually on the regulated community (the majority of which are publicly owned agencies), it appears that pursuant to Executive Order 12,866 and the Unfunded Mandates Reform Act, the CTR can be considered a significant regulatory action which is likely to adversely affect the economy of many regions of the State, the environment and/or local governments. EBMUD is also of the opinion that EPA failed to make a, "...reasoned determination that the benefits of the intended regulation justify its costs," and is obligated to redo the draft Economic Analysis and submit it for review by the Office of Management and Budget.

Response to: CTR-056-022a

See response to CTR-021-005c.

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Comment ID: CTR-092-020  
Comment Author: City of San Jose, California  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01e Indirect Dischargers  
References: Letter CTR-092 incorporates by reference letter CTR-035  
Attachments? Y  
CROSS REFERENCES

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Comment: Comment #4: Policy Assumptions re Indirect Dischargers

On page 2-38 of the Analysis of Potential Costs it states:

"...it was assumed that many POTW's will select the option of controlling discharges to their collection system as a cost-effective means to comply with permit limits".

Questions for EPA on Comment #4:

The specifics of San Jose/Santa Clara's copper limit and permit performance, as detailed below, raise

several global economic analysis methodological questions. For example, in the case

a) substantial, costly, pollution prevention and pre-treatment programs are already in place for most Indirect Dischargers; b) the emphasis on point sources has reduced influent concentrations to the Plant to levels where there is no longer a significant correlation of influent concentrations to effluent concentrations; c) 90% of copper is routinely removed from the influent at the San Jose/Santa Clara POTW, making further source control only marginally effective; and d) the POTW's wastewater effluent can be proven to be very close to CTR criteria, on average; yet e) portions of the receiving waters do not meet the suggested criteria, it seems capricious and arbitrary to assume that POTW's will opt to make Indirect Dischargers responsible for additional costs, as the source of the bulk of the copper is clearly not from the Indirect Dischargers, and the attainment of the CTR criteria in the receiving water will not occur by asking these sources to make further reductions.

Q.4-1) How many of the Indirect Dischargers are operating in a POTW environment where EPA's assumption would be appropriate? How many are not?

Q.4-2) How would the EPA estimates of POTW costs vs. Indirect Dischargers cost change if this assumption about cost effectiveness were changed?

Q.4-3) With respect to costs, have any measures been employed in this analysis to recognize cumulative costs of efforts undertaken to date? To identify where dischargers (indirect or direct) are on the scale of operating economies? To identify if point source pollution reduction efforts have been successful, thus spending additional monies will be only minimally productive?

Response to: CTR-092-020

The City of San Jose (San Jose) challenges the economic analysis methodology based on its particular experience in the control of toxic substances. In particular, San Jose states that because major pollution prevention efforts have already been conducted at the San Jose/Santa Clara POTW, pollution prevention is not expected to be a successful alternative for compliance with the projected CTR-based copper limit. EPA disagrees with San Jose's statement and addresses specific concerns in the following paragraphs.

San Jose indicates that although San Jose/Santa Clara facility's copper effluent concentration can be shown to be very close to the CTR-based limit, portions of the receiving water do not meet the suggested standard. EPA agrees with San Jose that the San Jose/Santa Clara facility's copper effluent concentrations are reported most often in compliance with the projected CTR-based limit, thus, estimated compliance costs are not sizable. EPA considers, however, San Jose's statement regarding some portions of the receiving water not being in compliance to be vague. If portions of the receiving water would not meet water quality standards when the San Jose/Santa Clara discharge is in compliance with its CTR-based permit limit, then a TMDL may need to be developed for the water body to ensure water quality protection. If the TMDL shows that water quality standards violations are caused by neighboring sources, then these sources would need to be controlled and related costs would not be attributed to the San Jose/Santa Clara facility.

San Jose states that it seems capricious and arbitrary to assume that POTWs will opt to make indirect dischargers responsible for pollution control costs when this may not be the case. EPA believes that San Jose's statement is inaccurate. The EPA's Economic Analysis estimates a statewide cost and is based on assumptions that apply to the majority of dischargers. If an individual facility, such as San Jose, believes that further controls on indirect dischargers are not necessary, then this specific situation would need to be addressed by the facility in a different manner. In order to account for this situation, EPA

assumed in its economic analysis that 30% of indirect dischargers would be impacted in the high scenario and 70% of indirect dischargers would be impacted in the low scenario which reflects that a greater proportion of the implementation costs would fall on POTWs under the high scenario. Nonetheless, EPA believes that the largest portion of toxic constituents received by POTWs are from indirect dischargers, thus pollution prevention, including source control efforts, will be able to ensure compliance with projected CTR-based limits.

Regarding San Jose's question about how many indirect dischargers would be targeted to reduce toxic discharges to POTWs (Q.4-1), EPA did not have adequate information to evaluate all individual indirect dischargers as part of its economic analysis, thus EPA is not able to give numerical estimates of the exact number of indirect dischargers discharging to POTWs that will be affected by this rule. However, to compensate for data limitations, EPA increased its estimate of indirect dischargers affected by the CTR from 10% to 30% used in the proposal to 30 to 70% used in the economic analysis for the final rule. EPA believes that this assumption dramatically overstates the number of dischargers affected by the CTR, but has done so to ensure that costs remain conservative, i.e., erring on the side of higher costs.

San Jose's second question (Q.4-2) is incomplete and, thus, EPA cannot prepare a response. San Jose is asking how costs would change if the assumptions used to estimate indirect costs were different, however San Jose does not indicate what the new assumptions would be. There are numerous other assumptions which could be employed to estimate indirect costs, however EPA cannot address them all and feels that the methodology used in the Economic Analysis was reasonable.

In response to San Jose's third question (Q.4-3), EPA did consider documented pollution prevention efforts implemented by the sample facilities in its evaluation and estimation of costs. However, having a successfully implemented pollution prevention program does not automatically disqualify a facility from being assigned pollution prevention costs in EPA's economic analysis. In the case of San Jose, effluent concentrations for copper and silver are reported below projected CTR-based effluent limits for all except one data point. Under this high compliance rate, addition of treatment is not justified, and EPA estimates that the facility would implement a pollution prevention program to ensure continued compliance (e.g., by addressing intermittent discharges). In addition, it should be noted that a pollution prevention program implemented to achieve an existing limit, although successful, may not necessarily comprise the same activities and level of effort as a program that would be implemented to ensure compliance with a new and more stringent limit (i.e., a CTR-based effluent limit).

See also response to CTR-004-003.

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Subject Matter Code: E-01e01 Sunnyvale/San Jose

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Comment ID: CTR-059-020

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01e01 Sunnyvale/San Jose

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

**CROSS REFERENCES**

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Comment: Economic Analysis

The Sanitation Districts commends EPA for preparing an analysis of the economic impacts of the proposed CTR, and for selecting POTWs for half of the case studies. We believe that EPA is correct in thinking that POTWs are likely to experience major impacts as a result of the promulgation of the CTR. However, we believe that this analysis is based on improper assumptions and inaccurate cost estimates, resulting in unconvincing conclusions. Our own attainability and cost analysis indicates that there are indeed fundamental flaws in the cost analysis. A few of the areas of concern are listed below:

\* The assumptions used to determine cost estimates for indirect dischargers, such as only considering significant industrial users (SIUs), assuming that only 10 to 30 percent of the SIUs would be required to implement control measures, and estimating that the average cost per indirect discharger would be just \$15,000 per year, appear to omit a large proportion of potentially affected industries and drastically underestimate potential costs.

Response to: CTR-059-020

See responses to CTR-021-011 and CTR-040-037.

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Comment ID: CTR-092-018

Comment Author: City of San Jose, California

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01e01 Sunnyvale/San Jose

References: Letter CTR-092 incorporates by reference letter CTR-035

Attachments? Y

**CROSS REFERENCES**

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Comment: Comment #2: Estimation of Costs for Indirect Dischargers

[Re: Page 4-9 of the Economic Analysis; also Page 2-38 of the "Analysis of Potential Costs Related to the Implementation of the California Water Quality Toxics Rule"]

The methodology for estimating costs of implementing the CTR for all the Indirect Dischargers in the state relies on data from the October 1994 Mass Audit Studies (MAS) prepared by indirect dischargers for the San Jose/Santa Clara and Sunnyvale POTW'S. The pages cited above state that "...the average cost per indirect discharger was estimated to be \$61,526 or \$15,000 per year..."; the former figure being a raw project cost, and the latter, an annualized payment, assuming 5 year amortization at a 7% interest.

Our review of the San Jose/Santa Clara (only)-related MAS data, as tallied in the October 1994 report, presents a very different "average" picture. Specifically, the average per facility project cost figure which can be documented is \$135,017 for both copper and nickel projects. Using the same financing assumptions as EPA, that raw cost would generate an annualized cost per facility of more than \$30,000 per year.

We believe that these findings cast serious doubt on how the data were interpreted and then utilized for the estimate of costs to Indirect Dischargers. The City has further strong concerns about the validity of using data for projects related to only two priority pollutants (copper and nickel) to represent costs, statewide, for the multitude of pollutants which Indirect Dischargers (and the City) may now be faced with compliance on, given implementation of the CTR.

Of further concern is that the range of project costs for San Jose/Santa Clara Indirect Dischargers is from \$2,940 to \$928,100 per facility for copper removal projects and \$500 to \$543,565 per facility for nickel removal projects. Use of a single average cost to represent these widely variable ranges substantially obscures the real cost impacts on the local level and on individual businesses.

Questions for EPA on Comment #2:

Q.2- 1) Based on the San Jose/Santa Clara MAS data which was given to EPA, as cited above, how could the inclusion of Sunnyvale data with San Jose/Santa Clara MAS data bring the average raw cost per facility down from approximately \$135,000 to just over \$61,500?

Q.2-2) Given the MAS data cited above, it seems unreasonable to allow an average figure to serve as a proxy for costs for Indirect Dischargers statewide. Did EPA undertake some sensitivity analysis to explain the impact of a widely variable range of potential project costs and how that would affect costs to individual Indirect Dischargers as well as costs to the group of Indirect Dischargers?

Q.2-3) How did EPA test for the validity of using data focused on the costs of removing only two priority pollutants by the Indirect Dischargers in one Northern California subregion to represent Indirect Dischargers, with all possible combinations of pollutants as priorities, throughout the State?

Q.2-4) Did EPA determine that the number of pounds of pollutants removed under the five year payback scenario would be sufficient to meet the CTR standards? If not, then perhaps that scenario should be tested, as it may be necessary for the Indirect Dischargers to move to the next level of removal projects analysis (the 90% removal scenario). The per pound costs of doing so can be shown to increase by a factor of over 30 times, which will have a substantial effect on the per facility cost of meeting the CTR and, therefore, change the conclusions of the current analysis.

Response to: CTR-092-018

See responses to CTR-021-011 and CTR-035-048.

Subject Matter Code: E-01e02 No Costs for Non-SIUs

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Comment ID: CTR-040-037

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01e02 No Costs for Non-SIUs

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

**CROSS REFERENCES**

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Comment: EPA's estimates for indirect dischargers is confined to "significant industrial users" (SIUs) and ignores small industrial and commercial establishments that can be sources of toxic pollutants (e.g., vehicle service businesses, printers, dentists, etc.). In most cases, where toxic pollutants exist at levels of concern in effluent, they are not the result of SIU discharges; they are from either residential or commercial sources.

Response to: CTR-040-037

Since non-SIUs are typically not the focus of POTW regulatory programs, the Agency has assumed that the costs to control discharges from non-SIUs will be born primarily by the POTW. EPA's consideration of non-SIUs, therefore, is built into the waste minimization costs allocated to POTWs. For example, the waste minimization costs assumed for POTWs include components such as source identification, outreach and training, and source reduction strategies. These measures have been used successfully by POTWs to reduce discharges of specific pollutants from non-SIUs (e.g., mercury, silver) without imposing costly end-of-pipe treatment.

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Comment ID: CTR-041-033

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01e02 No Costs for Non-SIUs

References:

Attachments? N

**CROSS REFERENCES**

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Comment: EPA's estimates for indirect dischargers is confined to "significant industrial users" (SIUs) and ignores small industrial and commercial establishments that can be sources of toxic pollutants (e.g., vehicle service businesses printers, dentists, etc.). In most cases, where toxic pollutants exist at levels of concern in effluent, they are not the result of SIU discharges; they are from either residential or commercial sources.

Response to: CTR-041-033

See response to CTR-040-037.

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Comment ID: CTR-043-003

Comment Author: City of Vacaville

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01e02 No Costs for Non-SIUs

References:

Attachments? Y

CROSS REFERENCES

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Comment: As background, the City of Vacaville owns and operates two wastewater treatment plants. The Easterly Plant has a capacity of 10 million gallons per day (mgd) and discharges to Old Alamo Creek, an effluent-dependent stream with little or no natural flow during much of the year. The Gibson Canyon Creek Plant has a capacity of 1.4 mgd and discharges to a small creek with the same name. The City has reviewed the proposed CTR with respect to its potential impact on the Easterly Plant. Because the Gibson Canyon Creek Plant serves two industrial dischargers, the City did not evaluate it with respect to the proposed CTR. Additionally, due to the City's population (< 100,000) stormwater has not been monitored for toxic pollutants. However, based on the Easterly Plant review, the City is concerned about the potential impact of the proposed rule on the City's municipal wastewater and on future stormwater operations.

Since 1993, the City has conducted an effluent and receiving water quality assessment with respect to the Easterly Plant. The purpose of the assessment was to characterize toxic pollutant levels in the plant effluent and the receiving water and to determine whether the discharge had a reasonable potential to cause or contribute to an exceedance of either existing or potential water quality objectives for toxic pollutants. The results of this assessment have formed the basis for the City's review of the proposed CTR.

3. The proposed rule could cost the City approximately \$4.2 million annually without providing commensurate environmental benefits. The Regional Board does not allow the City a dilution credit and therefore we would have to achieve the CTR criteria in our undiluted effluent. A review of our effluent data indicates we would be unable to attain effluents based on the human health criteria for three carcinogens -- gamma-BHC, chloroform, and dibromochloromethane (see Attachment). The reductions in effluent levels necessary to achieve these criteria vary between 27% for gamma-BHC to 88% for dibromochloromethane. These types of reductions would not be achievable through pollution prevention. Thus, end-of-pipe treatment would be required, most likely carbon adsorption. Using EPA's estimate of costs for a 10 mgd carbon adsorption facility for the City of Merced case study, the capital cost of the facility would be \$10.7 million and the annual cost would be \$4.2 million (7%, 10 years). It is questionable whether this substantial cost would bring about much benefit in an effluent-dependent stream.

Response to: CTR-043-003

See responses to CTR-021-008, CTR-056-018, CTR-004-003, and CTR-021-008.

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Comment ID: CTR-044-028  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01e02 No Costs for Non-SIUs  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: EPA's estimates for indirect dischargers is confined to "significant industrial users" (SIUs) and ignores small industrial and commercial establishments that can be sources of toxic pollutants (e.g., vehicle service businesses printers, dentists, etc.). In most cases, where toxic pollutants exist at levels of concern in effluent, they are not the result of SIU discharges; they are from either residential or commercial sources.

Response to: CTR-044-028

See response to CTR-040-037.

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Comment ID: CTR-054-032  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01e02 No Costs for Non-SIUs  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: EPA's estimates for indirect dischargers is confined to "significant industrial users" (SIUs) and ignores small industrial and commercial establishments that can be sources of toxic pollutants (e.g., vehicle service businesses printers, dentists, etc.). In most cases, where toxic pollutants exist at levels of concern in effluent, they are not the result of SIU discharges; they are from either residential or commercial sources.

Response to: CTR-054-032

See response to CTR-040-037.

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Subject Matter Code: E-01e03 No Savings from Poll. Red

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Comment ID: CTR-092-019

Comment Author: City of San Jose, California

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01e03 No Savings from Poll. Red

References: Letter CTR-092 incorporates by reference letter CTR-035

Attachments? Y

**CROSS REFERENCES**

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Comment: Comment #3: Net Costs of MAS Projects

The EPA document entitled "Analysis of Potential Costs Related to the Implementation of the California Water Quality Toxics Rule" describes the agency's interpretation of the Mass Audit study information provided by the City of San Jose for use in preparing the CTR. On page 2-39 of that document it states that:

"The studies concluded that substantial discounted net savings could accrue to their indirect industrial dischargers by implementing pollution reduction projects for which the payback period is five years or less."

Questions for EPA on Comment #3:

Q.3- 1) Isn't this statement appropriate only if the indirect discharger(s) accepts the analyst's financing and business operation assumptions, i.e. that project costs were annualized and then offset by annual operating savings? Even then would there be net savings before project costs were completely offset in approximately five years?

Q.3-2) For those dischargers who chose to pay for pollution reduction projects from current operating monies, isn't the time gap between cost offset and accumulated operating savings even longer? Is there not also the additional, (uncalculated) cost of the opportunity cost of business capital?

Q.3-3) San Jose's findings were that, for the aggregate of MAS dischargers, on an undiscounted, per pound of pollutant removed basis, there were net costs for the copper removal projects, not net savings, which effectively lengthened the payback period. How were these findings incorporated into this analysis?

Q.3-4 San Jose further found that the per pound savings (again undiscounted) for the nickel removal projects would hardly be considered substantial for most large indirect dischargers. How did EPA define "substantial"?

Response to: CTR-092-019

EPA's analysis does not include the costs of coming into compliance with existing permit limits as part of CTR compliance costs because these costs will be incurred regardless of the implementation of the CTR. In EPA's revised economic analysis of the final CTR, San Jose's high-end and low-end costs are

estimated to be \$300,000 per year and \$57,000 per year, respectively. The extrapolated costs attributed to San Jose in the high and low scenarios are \$750,000 and \$140,000, respectively, or 1.2% and 0.5% of the total projected annual costs.

For sites included in the San Jose mass audit study (MAS) that reported a payback of 5 years or less, the MAS reports aggregate total costs (over 5 years or less) for copper projects of \$2.5 million compared to an annual operating cost savings of \$1.7 million, resulting in an average overall payback period of 1.5 years. The MAS also reports aggregate total costs for nickel projects of \$1.7 million versus an annual operating cost savings of \$2.3 million for an average overall payback period of 0.75 years (MAS, 1994). The MAS does not consider alternate financing or accounting practices. In using the San Jose MAS costs, EPA did not consider that any savings would be realized and financed the entire costs at seven percent over the five years. Factoring in the operating cost savings would have resulted in lower costs over this same period.

EPA believes that the O&M savings for the nickel removal projects for most large indirect dischargers are too speculative and specific to dischargers in the South Bay area to apply to other POTWs throughout California, thus EPA discounted the savings component to add a measure of conservatism when estimating costs to the indirect discharger population.

Reference: City of San Jose, San Jose/Santa Clara Water Pollution Control Plant, 1994. Industrial Mass Audit Studies Summary Report.

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**CALIFORNIA TOXICS RULE  
RESPONSE TO COMMENTS REPORT**

**VOLUME II**

December 1999

Prepared by:

U.S. Environmental Protection Agency  
Office of Science and Technology  
401 M Street, S.W.  
Washington, D.C. 20460

and

U.S. Environmental Protection Agency  
Region 9  
75 Hawthorne Street  
San Francisco, California 94105

Subject Matter Code: E-01g Sample Facilities

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Comment ID: CTR-021-008

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: E-01g Sample Facilities

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

**CROSS REFERENCES**

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Comment: EOA submits the following comments on the Draft California Toxics Rule on behalf of the City of Sunnyvale. Sunnyvale owns and operates a 29.5 mgd advanced secondary municipal wastewater treatment plant that discharges into the extreme South San Francisco Bay. Sunnyvale has had in place for several years comprehensive source control, pollution prevention, and waste minimization programs.

The San Francisco Bay Regional Water Quality Control Board (RWQCB) considers Sunnyvale a shallow water discharger and does not allow dilution credit in calculating effluent limits. As such Sunnyvale faces considerable difficulties in complying with end-of-the-pipe limits for copper and potentially several toxic organics that have proposed criteria lower than the analytical detection limit.

One of the key items contained in the CTR that directly impacts Sunnyvale is the effluent limit attainability analysis and cost of compliance for Sunnyvale contained in the Analysis of Economic Costs Technical Support Document and Appendix. The methodology is flawed, a number of assumptions (including basic facts) are incorrect and thus lead to erroneous results. Reliance on an incorrect analysis of the City of Sunnyvale WPCP and then extrapolation of this analysis to other California dischargers will lead to other erroneous and misleading results and conclusions.

The EPA Sunnyvale Case Study Did Not Follow EPA's TSD and Did Not Use Current Available Effluent Data and thus Contains Erroneous Conclusions

Attachment no. 1 to this memo contains a detailed analysis of deficiencies in EPA's analysis of the Sunnyvale Case Study, specifically an evaluation of Sunnyvale's compliance with calculated CTR based effluent limits (Analysis of Potential Costs TSD Appendices I-B, 11-B, II I-B). It is not clear why EPA did not employ a more straight-forward 1991 TSD based approach (Chapters 3 and 5) starting with a reasonable potential analysis based on actual data followed by effluent limit calculation. Some of the fundamental assumptions behind the approach used are flawed, leading to erroneous conclusions, some overly conservative, some not.

For example from Table I-B-4, silver was reported to be a problem since the calculated CTR limit (1.76 ug/L) was less than the current limit (2.3 ug/L), even though the maximum historic effluent value (1.6 ug/L) was less than either limit. The CTR analysis also appears to be confusion over effluent limit averaging periods since the CTR limit of 1.76 ug/L is derived from a one day maximum toxicity based criterion yet the limit is described as a monthly average limit. Current NPDES permits in the San Francisco Bay Region do not have monthly average limits for silver. The CTR should explain how the proposed 3.8 ug/L daily maximum limit is considered protective of aquatic life.

Response to: CTR-021-008

To estimate costs related to implementation of the CTR, EPA selected a sample of point source dischargers for evaluation to represent the universe of point source dischargers to inland waters, enclosed bays, and estuaries. As described in SAIC and Jones and Stokes Associates (1997), this sample was selected based on a number of factors, including type of facility, geographic location, etc. Available dilution was not considered in selecting a sample.

However, dilution factors used to calculate water quality-based effluent limits (WQBELs) were based on the dilution allowed within the current waste discharge requirements for each sample facility. Of the 20 sample facilities, only four were provided with dilution factors; WQBELs for the remaining facilities were based on a dilution of zero. When this sample is extrapolated to the universe, over 94% of point source dischargers are estimated to not be allowed dilution. EPA believes that this is a highly conservative estimate that will likely overestimate potential costs.

Reference: SAIC and Jones and Stokes Associates, Inc. 1997. Analysis of Potential Costs Related to the Implementation of the California Toxics Rule. Prepared for U.S. EPA, Office of Science and Technology and U.S. EPA Region IX, May 5.

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Comment ID: CTR-021-014

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: E-01g Sample Facilities

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES

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Comment: Attachment 1 - Comments on "Sunnyvale Facility Summary" Appendices

ANALYSES-

As discussed in the above memo, a fundamental methodological assumption was incorrect causing bias in the ensuing technical and economic analyses. Therefore, detailed comment on the results are for the most part inappropriate. In addition, the entire analyses conducted for the City of Sunnyvale apparently utilized a dataset containing effluent data from 1991 through 1993 when more appropriate recent data (1994-1996) should have been used. However, as an illustration of how the results are biased, the following points are presented:

Appendix I-B:

Appendix I-B states that "The existing permit limits and/or the maximum reported concentrations of silver, endrin, pentachlorophenol, 1,2-dichlorobenzene, chlorodibromomethane, and toluene are less stringent than the projected CTR-based limits (see Table I-B-4)". The following discussion addresses each of those constituents:

\* Silver: The CTR based average monthly limit is 1.76 mg/L and the maximum daily limit is 3.8 mg/L. The current daily maximum limit is 2.3 mg/L. Based on a reasonable potential analysis (Attachment - 2) of plant performance data from 1994 through 1996, the projected maximum concentration is lower than the CTR based average monthly limit.

\* 1,2-dichlorobenzene, and toluene: The CTR based average monthly limit for each of these constituents decreased below the current effluent limit, therefore they were cited as requiring additional removal for compliance. However the City's reasonable potential analysis of plant performance data from 1993 through 1996 indicates that there is no reasonable potential to exceed the CTR based limit (i.e. values were orders of magnitude below the proposed limits).

\* Endrin and Pentachlorophenol: The CTR based average monthly limit for pentachlorophenol decreased from 8.2 mg/L to 7.4 mg/L, triggering its inclusion in the CTR evaluation. During the time period of 1993 through 1996, 16 samples were analyzed at a detection limit of 10 mg/L, all of which were reported below detectable levels. Endrin was never detected in the effluent, but the available detection limits were above the CTR based effluent limit.

\* Chlorodibromomethane: Currently, THMs are regulated for the City of Sunnyvale at a level of 480 mg/L as an average monthly limit for Total THMs. A reasonable potential analysis of plant performance data from 1993 through 1996 indicates that there is a reasonable potential to exceed the CTR based limit of 34 mg/L.

\* Copper should have been flagged as a pollutant with reasonable potential to exceed the limit. A reasonable potential analysis of plant performance data will show that there is a reasonable potential for copper to exceed the maximum daily CTR based limit of 9.27 mg/L and the average monthly limit of 5.55 mg/L. The analysis summarized in Table I-B-3, only compares the proposed site specific objective of a maximum daily limit of 4.9 mg/L to the CTR based average monthly limit of 5.55 mg/L.

\* Dichlorobromomethane: This is similar to chlorodibromomethane in that a reasonable potential analysis will demonstrate that there is a reasonable potential for this constituent to exceed the CTR based average monthly limit.

#### Appendix II-B:

Appendix II-B states that "The existing permit limits and/or the maximum reported concentrations of silver, endrin, pentachlorophenol, and 1,2-dichlorobenzene, are less stringent than the projected CTR based limits (see Table II-B-4)". Refer to the discussion above for an interpretation of effluent concentrations for each of these pollutants.

Response to: CTR-021-014

Sunnyvale stated that the technical and economical analysis is biased because of an incorrect fundamental assumption and because the effluent data used for Sunnyvale (1991-1993) were not recent. Since Sunnyvale has disagreed with many of the methodological assumptions used for the analysis, it is difficult to determine to which specific assumption Sunnyvale is referring. Sunnyvale also raised questions regarding issues such as assigning reasonable potential in the high scenario based on existence of permit limits and the use of the projected average monthly limit to assess compliance. EPA's responses to these questions follow.

\* EPA's revised Economic Analysis included the use of effluent data that were reported between January 1995 and December 1997. These were the most recent data available at the time the analysis

was completed.

\* Analysis of silver effluent data indicate that this pollutant does not have reasonable potential to exceed a CTR-based limit. Thus, no compliance costs are necessary in the low scenario. However, pollution control costs are necessary in the high scenario because the existing permit limit is less stringent than the projected CTR-based limit. As indicated in the Economic Analysis, EPA determines reasonable potential to exceed CTR-based limits in the high scenario if a pollutant has an existing permit limit or if the projected effluent quality based on the facility effluent data is greater than CTR-based limits. EPA recognizes that this is a conservative assumption that may overstate costs in the high scenario if a pollutant is limited in a permit but is not actually present in the effluent.

\* 1,2-dichlorobenzene and toluene do not have reasonable potential to exceed water quality criteria and thus no associated compliance costs in the low scenario of the revised Economic Analysis. However, reasonable potential and compliance costs are assigned in the high scenario because existing permit limits for these pollutants are less stringent than the projected CTR-based limits. The rationale behind this assumption is the same as for silver (see above).

\* Endrin is not listed as a pollutant of concern in the revised Economic Analysis. In the low scenario, reasonable potential is not assigned because, as Sunnyvale also indicated, the pollutant is consistently reported below detection levels. In the high scenario, no costs are assigned because the existing limit is as stringent as the projected CTR-based limit. Sunnyvale indicated that although endrin was detected in the effluent, the detection level is greater than the projected CTR-based effluent limit suggesting that controls may be necessary. However, since the existing permit limit is as stringent as the CTR-based projected limit, any compliance costs are attributable to the existing limit and not the CTR.

\* In the revised Economic Analysis, pentachlorophenol is assigned compliance costs in the high scenario and not in the low scenario. This is because the existing permit limit is less stringent than the projected CTR-based limit and all available effluent data are below detection levels. As shown in the cost decision matrix presented in the Economic Analysis, EPA assumes that addition of treatment is not justified when effluent data are inconclusive or limited.

\* No pollution control costs are estimated for chlorodibromomethane and dichlorobromomethane in the revised Economic Analysis. The existing NPDES permit does not include limits for these constituents. In addition, no recent effluent monitoring data (1995 to 1997) were available. Although, Sunnyvale indicated that it had completed reasonable potential analyses for chlorodibromomethane and dichlorobromomethane, it did not provide these analyses to EPA.

\* Please see the response to CTR-021-004 for a detailed discussion of EPA's response to the issues the commenter raises regarding copper.

\* In the revised Economic Analysis, the reduced risk level scenario for silver, endrin, pentachlorophenol, and 1,2-dichlorobenzene (Appendix II-B) is identical to the base scenario. Thus, the above responses are also applicable to the Appendix II-B comments Sunnyvale submitted.

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Comment ID: CTR-035-059  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA

Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01g Sample Facilities  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Weaknesses in Cost Analysis

The report's cost estimates exhibit a number of significant weaknesses, as follows:

\* No evidence is presented that the selected case studies reflect the overall population of affected parties. Although a stratified sample approach appears to reflect sound basis from which to estimate costs, USEPA provides no explanation as to how the case study areas were selected- no evidence that the impacted population is statistically "normal"(\*6) and no information indicating that the sample size is sufficient to make generalizations (e.g., 7 percent of the major POTW NPDES permittees; 1 percent of the minor NPDES permittees). Likewise the analysis points to significant diversity in how Regional Water Quality Boards treat permits, with potentially concomitant cost implications. Excluding a few high-cost parties from the sample, and ignoring regional Board behavior, could falsely indicate that total Rule costs are less than \$100 million a year.

An alternative sampling approach could focus on the presence and distribution of affected pollutants, rather than the impacted entities. Since costs to control metals and mercury are estimated to account for almost 60 percent of total annual costs,(\*7) examination of the presence of these pollutants in different state regions could provide a basis for alternative cost estimates.(\*8) Or, to account for different regional water quality conditions and Regional Board behavior, sampling could be done by water body.

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(\*6) In fact, the provided data implies that a handful of dischargers may be responsible for the great majority of costs.

(\*7) This estimate in itself may be suspect, as organics may account for a larger proportion of the contaminants than indicated by USEPA.

(\*8) This approach would require a great deal more information about existing pollutant characteristics and distribution. However, such knowledge would seem to be a critical precursor to rule development.

Response to: CTR-035-059

See responses to CTR-021-005c and CTR-059-018.

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Comment ID: CTR-041-010d  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01g Sample Facilities

References:

Attachments? N

CROSS REFERENCES E-01n

E-01m

E-01e

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Comment: 5. Concerns Regarding Economic Analysis

The District also has several significant concerns with the Economic Analysis that was performed for the proposed rule. Concerns about the cost estimates made for both the District and the state are presented here. (See attached Review of EPA's Economic Analysis of the Proposed California Water Quality Toxics Rule.) Overall, the District believes that problems with the Economic Analysis are serious enough that it should be redone. As stated above in our analysis of assumed costs at the SRWTP, the use of questionable data without qualification combined with unsubstantiated assumptions regarding costs to achieve compliance resulted in a gross underestimate in the cost-effectiveness ratio. The District's first concern is that if the types of problems found in our Case Study are widespread in other studies, the complete analysis is suspect.

In addition to the analysis of the District's facilities, there are several other points which have been used by EPA to lead to a potentially serious understatement of actual costs. The key assumptions involved are that: 1) no costs would occur if either no monitoring data presently exists or if that data is below analytical detection levels; 2) no treatment costs would occur whenever EPA's initial estimates showed high costs, due to successful regulatory relief; 3) no costs are included for nonpoint sources such as municipal stormwater management systems; and 4) no costs are included for indirect dischargers to the District's system that are not large enough to be considered a Significant Industrial User (SIU).

Regarding the first assumption, the District has found that there is pressure from many sides, including the Safe Drinking Water Act, to both increase the number of constituents being monitored and to lower detection levels to meet numeric criteria set by EPA and the state. To assume that monitoring of these new constituents will not lead to any treatment cost increases is simply unrealistic. Similarly, the second assumption about absolute success in every pursuit of regulatory relief is also overly optimistic. There are no guarantees that pursuit of regulatory relief will be successful in any situation, and EPA indicates elsewhere in the preamble that options such as variances and site-specific criteria will rarely, if ever, be granted.

The third and fourth key assumptions ignore present dominating trends and facts, i.e. that prevention and control of pollutants at their sources, including very small indirect dischargers, storm runoff, and other nonpoint sources are now the major focus of EPA's wastewater programs nationally. While we agree that these management steps should be taken, there will be significant costs attached to the implementation of these steps that cannot be ignored.

Combined with concerns the District has heard from other sources such as the California Association of Sanitation Agencies (CASA), it appears that EPA has failed to make "a reasoned determination that the benefits of the intended regulation justify its costs." Therefore the District believes that the Agency is obligated to redo the draft Economic Analysis.

Response to: CTR-041-010d

See responses to CTR-032-004, CTR-021-006b, CTR-040-037, and CTR-003-011.

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Comment ID: CTR-043-004a  
Comment Author: City of Vacaville  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01g Sample Facilities  
References:  
Attachments? Y  
CROSS REFERENCES E-01h  
E-01m  
E-02c  
E-01c02

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Comment: 4. EPA's Economic Analysis is seriously flawed. The major flaws include:

- (1) failing to do an appropriate sampling of small dischargers having little or no dilution;
- (2) assuming in the high-end cost scenario that a 25% reduction could be achieved through source control and an additional 25% achieved through treatment plant optimization without capital improvements;
- (3) constraining estimates of potential costs through key assumptions, including the assumption that regulatory relief from the rule would be granted if costs were in excess of certain thresholds; and
- (4) exaggerating estimates of potential benefits by assuming an end (i.e., achievement of the proposed water quality criteria) that will not result from the rule.

The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated. Moreover, the flawed economic analysis has led to the erroneous conclusion that the CTR is not a "significant regulatory action" or major rule subject to Presidential Executive Order 12866 and the Unfunded Mandates Reform Act or a rule that affects small entities protected under the Regulatory Flexibility Act.

Response to: CTR-043-004a

See responses to CTR-054-013a, CTR-021-005c, CTR-032-004, CTR-021-008, CTR-040-029a, CTR-056-018, and CTR-059-018.

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Comment ID: CTR-092-014  
Comment Author: City of San Jose, California  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01g Sample Facilities  
References: Letter CTR-092 incorporates by reference letter CTR-035  
Attachments? Y

## CROSS REFERENCES

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Comment: EPA's Economic Analysis

Attachment 4 to this letter, are detailed comments by the City on EPA's Economic Analysis of the costs and benefits that are anticipated from adoption of the CTR. This attachment is also incorporated as part of our comments and is being submitted for inclusion in the record for this rulemaking.

Although the City initially supported a waiver of OMB review of the CTR, we are very concerned with the number of uncertainties and erroneous assumptions contained in the Economic Analysis. We are particularly concerned with EPA's interpretation of the San Jose/Santa Clara facility data as it relates to the cost and attainability of limits based on the proposed copper and nickel criteria. We are also extremely concerned with the use of this data to draw conclusions about costs and compliance with for other pollutants or other facilities. Finally, we are also concerned that the State may attempt to use or rely on the Economic Analysis in promulgating its implementation plan.

We understand the difficulty of performing such an analysis, but we also believe that the importance of a complete, thorough and supportable Economic Analysis cannot be overstated. As discussed in more detail in Attachment 4, the Economic Analysis does not fully account for all costs and the benefits, nor does the Analysis accurately calculate and analyze the costs and benefits that are presented. As indicated above, EPA's conclusions about costs and benefits cannot be validated at this time due to uncertainties about State implementation of the Rule.

Response to: CTR-092-014

See responses to CTR-021-011 and CTR-040-037.

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Subject Matter Code: E-01g01 Low or Zero Dilution

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Comment ID: CTR-108-001

Comment Author: City of Los Angeles

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 10/31/97

Subject Matter Code: E-01g01 Low or Zero Dilution

References:

Attachments? Y

**CROSS REFERENCES**

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Comment: On behalf of Dr. Ing Yih Cheng, I am sending you copies of tables which described the constituents of concern with respect to CTR at Los Angeles-Glendale Water Reclamation Plant, Terminal Island Wastewater Treatment Plant, and Donald C. Tillman Water Reclamation Plant. Detailed information regarding the concern constituents at each plant will be forwarded to you sometimes next week.

If you have any questions regarding these tables please call me at (310)524-1171.

Response to: CTR-108-001

See response to CTR-092-017.

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Subject Matter Code: E-01g02 Another EA for Sample Fac

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Comment ID: CTR-052-014

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01g02 Another EA for Sample Fac

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

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Comment: C. RECOMMENDATIONS FOR MODIFICATIONS TO THE CTR AND EA

Revise the Economics Analysis. The EA should be revised to incorporate the updated and more representative cost data provided by POTWs. The benefits analysis should also be revised using the methodology recommended by M.Cubed and others. EPA should use data more representative of California, rather than relying on questionable data from a Ph.D. dissertation. The EA should also include sub-sections specific for San Francisco Bay and effluent dependent water bodies.

Response to: CTR-052-014

See response to CTR-021-008.

To update its analysis for the final CTR, and in response to comments, EPA collected the most recent publicly available data for all facilities included in the cost analysis, including permits, fact sheets, permit applications, and discharge monitoring data. Data submitted as a part of the public comments were also reviewed and considered.

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Comment ID: CTR-057-001

Comment Author: City of Los Angeles

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01g02 Another EA for Sample Fac

References:

Attachments? N

CROSS REFERENCES

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Comment: Thank you for the opportunity to submit comments on the proposed California Toxics Rule (CTR). As we indicated in our oral comments at the September 18, 1997 public meeting, the City of Los Angeles is primarily concerned about the adequacy of your agency's cost/benefit analysis (particularly with respect to the Tillman Water Reclamation Plant case study). Although we highlight this issue in the following comments, we have a number of additional concerns regarding other important matters raised by the proposed Rule that are also presented. We strongly urge the EPA to consider these comments and

recommendations, especially with regard to revision of the economic analysis.

#### Overview of Affected Facilities

The City owns and operates three treatment facilities that would be impacted by the proposed Rule:

**DC Tillman Water-Reclamation Plant.** This 80-MGD facility is located in Van Nuys and provides tertiary-treated reclaimed water that is essential for current and planned reuse projects (irrigation, recreation and wildlife habitat) and aquatic wildlife support (via discharges to natural portions of the Los Angeles River). A major water reclamation project (East Valley Water Recycling Project), currently under construction, will deliver up to 30 MGD of flow to groundwater recharge basins and industrial users in the San Fernando Valley. The plant's service area comprises a population of approximately 1 million people.

**Los Angeles-Glendale Water Reclamation Plant.** This 20-MGD capacity plant (partly owned by the City of Glendale) supplies tertiary-treated reclaimed water for several industrial and irrigation uses, while discharges to the Los Angeles River support natural portions of the Los Angeles River. The plant's service area includes portions of the cities of Los Angeles and Glendale, comprising a total served population of approximately 250,000 people.

**Terminal Island Treatment Plant.** This 30-MGD facility, located in San Pedro was recently upgraded to tertiary capability via the addition of deep-bed effluent filters. This plant is the site of a major water reclamation project which will ultimately supply advanced-treated (microfiltration/reverse osmosis) effluent to nearby oil refineries and support industries. The plant serves a population of about 300,000 people.

The combined annual operation and maintenance cost of these facilities is approximately \$15 million. As the City is also expanding its Hyperion Treatment Plant to full-secondary capability, the incurred costs of this and other capital-improvement efforts have severely restricted the City's ability to invest in additional projects without placing additional financial burdens on rate payers in the City. Consequently, the benefits (as well as the costs) of the CTR as identified in the EPA's economic analysis were examined closely.

#### Comments

While the CTR proposes criteria and provisions having a broad range of impacts to POTWS, we have identified a number of issues that we are primarily concerned with. These are discussed individually in the following statements.

#### Economic Analysis

In view of the substantial capital and O&M investment that the City's treatment facilities represent, our primary concern of course is the proposed Rule's Economic Analysis (EA) and the misleading impression it makes with respect to the Rule's probable cost. Overall, we believe that the CTR presents the EA as a conclusive statement of cost based on two model approaches, of which neither represents an accurate assessment of the true costs to POTWs. The first model provides what is essentially a "no cost" scenario, while the second approach results in a high-end amortized cost of only \$86.6 million per year State-wide. This number (rounded to \$100 million) and the methods utilized in its derivation is highly suspect as a basis for the Office of Management and Budget's declaration that the Rule will not significantly impact State dischargers. The figure was based for the most part on the EPA's investigations of several case

studies in which detailed cost analyses were conducted for POTWs deemed to be "problematic;" that is, treatment facilities whose performance histories indicated the possibility that the proposed Rule would have significant cost impacts.

These case studies included our Tillman facility, which since 1991 has undergone a uniquely painful experience with respect to NPDES compliance as a direct result of priority-pollutant rule promulgation. As you are likely aware, the plant's NPDES permit was renewed in September 1991 shortly after the State's adoption of the Inland Surface Waters Plan (ISWP), which itself imposed priority-pollutant criteria identical with or similar to those included in the proposed Rule. To our knowledge, our plant was the only one in the region that suffered the fate of having to comply with a water quality control plan that was subsequently invalidated by the State Superior Court.

Following the ISWP's April 1991 adoption and renewal of the NPDES permit, our plant immediately experienced compliance difficulties with respect to chronic toxicity, copper, lindane, DDT, methylene chloride, and numerous other trace organic compounds. In April 1992, we completed a 6-month study investigating the probable cost of ISWP compliance for the Tillman facility. In view of the staggeringly high costs we identified (see following summary), we initiated ongoing and costly efforts to identify and implement industrial source controls; from this, we reduced methylene chloride down to compliance levels but we determined that many of the problem constituents are not source-controllable. Consequently, in 1993 we initiated a process with the Los Angeles Regional Water Quality Control Board to obtain relief in the form of a modification of the NPDES permit. Since that time, and even in view of the 1995 invalidation of the ISWP, we have been unsuccessful in negotiating what we feel are justified revisions to the NPDES permit.

EPA's cost estimates in the Tillman EA take none of this into account. The EPA instead treats the plant's NPDES as a compliance baseline from which comparisons with the CTR are made. As a result, it was a foregone conclusion that the EPA would not find any significant cost impacts to the plant due to the proposed Rule, as the Rule's criteria are already effectively contained in the plant's NPDES permit! Our 1992 cost estimates (see attached summary sheets) translate into an annual amortization and O&M cost of approximately \$36 million. An updated estimate (\$40 million) conducted on the basis of the proposed Rule confirms the magnitude of these costs.

When we described this situation at the September 18 public meeting, we were advised by the national EPA representative to seek variances for problem constituents. While these variances can alleviate Tillman's non-compliance issue, this approach does not address the compliance cost underestimation issue. In view of this, we believe that the EA is fundamentally flawed from the Tillman plant's perspective and therefore in need of substantial revision. Furthermore, this is not a moot point given the fact that the State intends to adopt a revised version of the ISWP, as it is our belief that EPA recognition of the probable true costs of CTR compliance would have a major effect on ISWP implementation provisions. We believe that a more objective assessment of the CTR's cost impact would also provide a more realistic evaluation of the Rule's environmental benefits, which by comparison appear to be overestimated in the EA.

The City therefore respectfully requests the EPA to revise the economic assessment and to amend the Tillman EA to reflect the true cost of compliance. Given the somewhat unfortunate timing of the proposed Rule with the State's own Draft Implementation Policy (which we have only begun to analyze), we further request that the EPA consider working in collaboration with the State and the public members of the State's Economic Considerations Task Force to develop mutually agreed-upon approaches needed to revise the EA.

Miscellaneous comments:

\* The EA refers to a 10-year amortization schedule (Pages 4-2 and 9-3), but Exhibit 9-2 (the cost benefit comparison) refers to equipment purchases at 1 and 16 years (a 15-year amortization schedule).

\* The statements in the last row of Exhibit 8-21 casts considerable doubt on the overall adequacy of the EA with respect to benefits.

\* The EA avoids the issue of cross-media pollutant transfer and the associated costs. Spent activated carbon and reverse-osmosis brine are wastes representing real disposal problems.

Response to: CTR-057-001

See responses to CTR-021-005c, CTR-040-026, CTR-021-004, and CTR-054-033.

EPA corrected this discrepancy in its revised analysis.

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Subject Matter Code: E-01g03 Cost Effectiveness Ratio

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Comment ID: CTR-040-039

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01g03 Cost Effectiveness Ratio

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

**CROSS REFERENCES**

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Comment: EPA's estimate of cost-effectiveness (\$8 - \$12 per toxic pound equivalent) is considerably lower than the estimates prepared by others. The Bay Area Dischargers Association and the Novato Sanitary District calculated unit costs for copper removal to be in excess of several thousand dollars per toxic pound equivalent removed.

Response to: CTR-040-039

In response to comments received by EPA on the economic analysis that accompanied the proposed CTR, EPA collected additional data for the sample facilities. EPA also revised its estimate of potential compliance costs attributable to the CTR.

EPA's low estimate of total annualized costs of the final CTR is \$33.5 million per year and its high estimate is \$61.0 million per year. The low and high estimates vary based on whether effluent data or permit limits are used to assess the need for additional controls. They also vary based on whether or not alternative regulatory approaches, such as phased total maximum daily loads/water quality assessments, site-specific criteria modifications, standards variances, metals translators, etc., are considered under certain circumstances. EPA believes that its estimates of costs and benefits are sound.

EPA believes that several general observations can be made regarding studies submitted by commenters and how they differ from the EPA cost study for the final CTR. Many commenters assumed that the mere presence of a pollutant would result in costs to comply with a CTR-based WQBEL. It should be noted that the presence of a pollutant in an ambient inland water, enclosed bay, or estuary does not require permitting authorities to establish a WQBEL for that pollutant. The establishment of a permit limit is appropriate only where the permitting authority determines that a pollutant is likely to be present, and that the pollutant concentration has a "reasonable potential" to cause or contribute to an exceedance of the applicable water quality standard. Where the pollutant is not likely to be present, or is not present at levels that have reasonable potential to cause or contribute to a water quality standard exceedance, a WQBEL may not be necessary.

The majority of cost estimates provided by commenters include the costs for the addition of end-of-pipe treatment to achieve proposed CTR-based WQBELs. This was particularly the case when WQBELs were expected to be below analytical detection levels. EPA disagrees that end-of-pipe treatment is necessary to achieve CTR-based WQBELs in all cases. As discussed in SAIC (1995), there are documented cases where waste minimization or source control techniques have been used to comply with existing permit limits established below detection levels. Other examples include the Western Lake Superior Sanitary District (WLSSD), who after evaluating the costs involved to meet more stringent WQBELs for mercury

with end-of-pipe treatment, concluded that pollution prevention techniques were the preferable control strategy. As a result, WLSSD published a guide designed to "assist wastewater treatment plant staff with creating and implementing their own mercury reduction projects." As a result of the efforts of WLSSD, effluent mercury levels were found to decrease from 0.58 parts per billion (ppb) to 0.015 ppb.

Although waste minimization or source controls are not always applicable, EPA assumes in its low estimate of costs that a facility would first evaluate whether process changes or modifications are feasible, prior to incurring costs for adding treatment.

In addition, many commenters assumed that compliance would be based on the WQBEL, regardless of whether it is below the analytical method detection level (MDL). This is not consistent with current practice. Instead, the State may use the "minimum level" (ML) (as defined in 40 CFR Part 136) as the required compliance point where a permit limit is established at a value below the MDL. The ML is a value at which the limited parameter can be accurately quantified, and is always greater than or equal to the MDL. To ensure that its cost estimates were conservative (i.e., erring on the side of higher costs), EPA used the MDL as the compliance level. Although EPA used the pollutant MDL for costing purposes, the Agency acknowledges that estimating treatment costs for WQBELs below the MDL is speculative and likely unrealistic.

Finally, many of the commenters included costs related to installation of treatment for storm water discharges. As further described in the responses to CTR-021-008 and CTR-040-004, EPA believes that the final CTR will not significantly affect the current storm water program being implemented by the State, which includes the requirement to develop best management practices to control pollutants in storm water discharges. As such, EPA believes that inclusion of end-of-pipe treatment costs for storm water are inappropriate.

Reference: SAIC. 1995. Assessment of Compliance Costs Resulting from Implementation of the Final Great Lakes Water Quality Guidance. Prepared for U.S. EPA, Office of Science and Technology, March 13.

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Comment ID: CTR-041-035  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01g03 Cost Effectiveness Ratio  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: EPA's estimate of cost-effectiveness (\$8 - \$12 per toxic pound equivalent) is considerably lower than the estimates prepared by others. The Bay Area Dischargers Association and the Novato Sanitary District calculated unit costs for copper removal to be in excess of several thousand dollars per toxic pound equivalent removed.

Response to: CTR-041-035

See response to CTR-040-039.

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Comment ID: CTR-044-030  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01g03 Cost Effectiveness Ratio  
References:

Attachments? N

CROSS REFERENCES

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Comment: EPA's estimate of cost-effectiveness (\$8 - \$12 per toxic pound equivalent) is considerably lower than the estimates prepared by others. The Bay Area Dischargers Association and the Novato Sanitary District calculated unit costs for copper removal to be in excess of several thousand dollars per toxic pound equivalent removed.

Response to: CTR-044-030

See response to CTR-040-039.

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Comment ID: CTR-054-013a  
Comment Author: Bay Area Dischargers Assoc.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01g03 Cost Effectiveness Ratio  
References:

Attachments? Y

CROSS REFERENCES E-01q01

E-01m

E-021

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Comment: The economic analysis is seriously flawed. The major flaws include: (1) failing to do an appropriate sampling of dischargers; (2) assuming in the high-end cost scenario that a 25% reduction could be achieved through source control and an additional 25% achieved through treatment plant optimization without capital improvements; (3) constraining estimates of potential costs through key assumptions, including the assumption that regulatory relief from the rule would be granted if costs were in excess of certain thresholds; and (4) exaggerating estimates of potential benefits by assuming an end (i.e., achievement of the proposed water quality criteria) that will not result from the rule (see Attachment 3). The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated. BADA's analysis shows that its member agencies alone could be faced with costs in excess of \$100 million per year to achieve effluent limits based on the copper, PAH, heptachlor and aldrin criteria. BADA's analysis also indicates that the benefits associated with this

expenditure will be difficult to measure. Copper loadings will be reduced by 1% and the level of compliance for PAH's and heptachlor will remain unchanged at its present high level. Certainly these benefits will not measurably improve the fishing experience or measure the number of fisherman in the Bay, significantly reduce the cancer cases, or improve property values or other nonuse benefits, as estimated in EPA's economic analysis. A further consequence of the flawed economic analysis is the conclusion that the CTR is not a major rule (i.e., one which will result in excess of \$100 million per year expenditure) subject to Presidential Executive order 12866 and the Unfunded Mandates Reform Act or a rule that affects small entities protected under the Regulatory Reform Act. BADA agencies provide service to a number of small communities with populations under 50,000 people that could be greatly impacted by the proposed rule.

Response to: CTR-054-013a

EPA believes that the sample of dischargers selected adequately represents the various types of direct dischargers in the state. EPA would have considered any and all information submitted by a discharger that did not think it was adequately represented by the sample facilities.

See responses to CTr-021-008, CTR-059-018, CTR-040-029a, CTR-032-004, CTR-056-018, and CTR-021-005c.

The commenter is referring to the estimate of total potential benefits in the analysis of benefits document. In EPA's EA for the proposed (and final) rule, only the portion of benefits expected to be achieved by implementing controls on point source dischargers are counted. EPA recognizes that the proposed standards will not be achieved in some cases by controlling point sources alone. EPA's assumptions regarding the attribution of benefits to the rule are described in the EA for the proposed rule in Chapter 7.

EPA's analysis presents only the portion of the total potential benefits that can be achieved by controlling point sources. EPA expects additional benefits will accrue as a result of controlling other sources. EPA has no reason to believe that the standards established by the CTR cannot be achieved.

EPA believes that controls on point source dischargers will, in many cases, contribute to attaining standards in a given water body. As controls on other sources are also implemented, the water quality standards can be achieved. However, the total maximum daily load (TMDL) process is provided to address cost-ineffectiveness as it pertains to point or nonpoint sources. For example, if controls on nonpoint sources are a more cost-effective approach to achieving standards, the State can redistribute the load allocations through the TMDL process.

EPA did not include values for water- and land-related benefits other than fishing, but noted that potential benefits may be underestimated because these benefit categories are not included. As described in the EA (See Chapter 8), EPA believes that these benefits may be appreciable because such recreational activities (e.g., boating, swimming, picnicking, and related activities) have been shown in empirical research to be highly valued, and even modest changes in participation or user values could lead to sizable benefits statewide. Some of these activities can be closely associated with water quality attributes (e.g., swimming) and others might increase due to their association with fishing, swimming, or other activities in which the participants might engage.

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Comment ID: CTR-054-034

Comment Author: Bay Area Dischargers Associati

Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01g03 Cost Effectiveness Ratio

References:

Attachments? N

**CROSS REFERENCES**

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Comment: EPA's estimate of cost-effectiveness (\$8 - \$12 per toxic pound equivalent) is considerably lower than the estimates prepared by others. The Bay Area Dischargers Association and the Novato Sanitary District calculated unit costs for copper removal to be in excess of several thousand dollars per toxic pound equivalent removed.

Response to: CTR-054-034

See response to CTR-040-039.

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Comment ID: CTR-056-016  
Comment Author: East Bay Municipal Util. Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: E-01g03 Cost Effectiveness Ratio  
References: Letter CTR-056 incorporates by reference letter CTR-054  
Attachments? N

**CROSS REFERENCES**

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Comment: Finally, EBMUD has serious concerns about the accuracy of EPA's draft, Economic Analysis, particularly as it pertains to the cost and benefits estimates found in the draft CTR. We believe that the costs of the CTR are significantly underestimated and the benefits are inflated. On the cost side, there are several "flaws" which should be reevaluated:

\* The representativeness of the sample used is questionable and should be reconsidered.

Response to: CTR-056-016

See responses to CTR-056-018 and CTR-059-018.

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Comment ID: CTR-056-017  
Comment Author: East Bay Municipal Util. Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97

Subject Matter Code: E-01g03 Cost Effectiveness Ratio

References: Letter CTR-056 incorporates by reference letter CTR-054

Attachments? N

**CROSS REFERENCES**

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Comment: Finally, EBMUD has serious concerns about the accuracy of EPA's draft, Economic Analysis, particularly as it pertains to the cost and benefits estimates found in the draft CTR. We believe that the costs of the CTR are significantly underestimated and the benefits are inflated. On the cost side, there are several "flaws" which should be reevaluated:

\* The omission of those impacts on those "dischargers" which contribute to loading such as: small indirect dischargers, municipal and industrial stormwater dischargers, agricultural activities and non-point sources, and therefore would be expected to reduce their loading.

Response to: CTR-056-017

See responses to CTR-056-018, CTR-021-006b, and CTR-040-037.

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Subject Matter Code: E-01g04 AMLs vs. MDLs

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Comment ID: CTR-021-010

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: E-01g04 AMLs vs. MDLs

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

**CROSS REFERENCES**

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Comment: The CTR Analysis Incorrectly Evaluates Permit Compliance By Using an Average Monthly Effluent Limit Rather than the California Regional Board's Maximum Effluent Limit

The EPA analysis assumes that the limit to be achieved, either 4.9 or the potential CTR limit of 5.55 ug/L is a monthly average limit. The current state NPDES permit cites the limit as a 1-day average limit, based on the San Francisco Basin Plan's 1-hour marine water quality objective.

Sunnyvale's 1994-1996 weekly effluent copper data (155 data points) had a mean of 4.3 ug/L, but a maximum of 9 ug/L, a 99%tile of 8.9 ug/L and a 95%tile of 7.0 ug/L.

The CTR economic analysis (Appendix Table I-B-3) calculated average monthly limits (AML) of 5.5 ug/L and maximum daily limits (MDL) of 9.27 ug/L for copper. EPA needs to specify if the State is currently in error in its interpretation and implementation of effluent limits in this manner. Furthermore, the CTR should clarify if this means that it is acceptable for States to calculate and include monthly average (30-day) limits in NPDES permits based on the proposed CCC criteria and the TSD based methodology used in the economic analysis (and similarly daily average limits based on the proposed CMC criteria).

Based on current State permits the economic analysis must be corrected since the threshold for determining whether or not additional measures would be required to comply with the CTR is based on a comparison with average, not maximum values. As noted above, unless EPA is redefining the chronic averaging period as monthly instead of 4-day (or 1-day), Sunnyvale can not achieve a 4.9 or 5.5 ug/L copper effluent limit (WPCP effluent is above this limit approximately 30-40% of the time). Other dischargers to San Francisco Bay that aren't allowed dilution credit face the same compliance problem and will require additional treatment to meet a 1 or 4-day limit in that range. Therefore, extrapolation of the CTR analysis to other dischargers is not appropriate and will lead to erroneous results and misleading conclusions.

Response to: CTR-021-010

This comment refers to Sunnyvale's previous one-day average copper limit. The previous permit limit was based on the underlying national criteria (saltwater) in effect at that time [2.9 ug/L for both the chronic aquatic life (CCC) and acute aquatic life (CMC)]. The State was not in error in implementing the above criteria as a one-day average limit. In the CTR, the saltwater copper CMC has been revised to 4.8 ug/L dissolved and the CCC has been revised to 3.1 ug/L dissolved. The revised CCC should not be implemented directly as a one-day average. EPA recommends that the State calculate both average

monthly limits and maximum daily limits based on the chronic and acute criteria using the U.S. EPA Technical Support Document (TSD) approach (1991). Therefore, EPA used the TSD approach in the Economic Analysis to estimate facility compliance with CTR-based WQBELs.

Reference: U.S. EPA. 1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001

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Subject Matter Code: E-01g05 Effluent Data

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Comment ID: CTR-040-027

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01g05 Effluent Data

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that if a discharger has no effluent data that the discharger will not incur costs as a result of the CTR.

Response to: CTR-040-027

If a discharger had no effluent data, EPA did not automatically assume that the discharger would have no costs as a result of the CTR. When effluent data was available, however, EPA used the method in EPA's Technical Support Document for Water Quality-based Toxics Control (1991) to determine reasonable potential and then followed the methodology (i.e., the cost-decision matrix) described in the Economic Analysis (EA) of the final CTR to estimate costs. In the absence of data under the high scenario, reasonable potential was assumed if the discharger had an existing permit limit for a pollutant and EPA then estimated costs using the methodology described in the EA. See also response to CTR-003-011.

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Comment ID: CTR-041-023

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01g05 Effluent Data

References:

Attachments? N

CROSS REFERENCES

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that if a discharger has no effluent data that the discharger will not incur costs as a result of the CTR.

Response to: CTR-041-023

See response to CTR-003-011.

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Comment ID: CTR-044-018  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01g05 Effluent Data  
References:

Attachments? N

**CROSS REFERENCES**

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that if a discharger has no effluent data that the discharger will not incur costs as a result of the CTR.

Response to: CTR-044-018

See response to CTR-003-011.

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Comment ID: CTR-054-022  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01g05 Effluent Data  
References:

Attachments? N

**CROSS REFERENCES**

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that if a discharger has no effluent data that the discharger will not incur costs as a result of the CTR.

Response to: CTR-054-022

See response to CTR-003-011.

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Comment ID: CTR-093-001

Comment Author: City of Merced  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 10/02/97  
Subject Matter Code: E-01g05 Effluent Data  
References:  
Attachments? Y  
**CROSS REFERENCES**

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Comment: Pursuant to our conversations following the California Toxics Rule (CTR) hearing of 17 September, find enclosed 1994, 1995, and 1996 data from priority pollutant monitoring at the City of Merced Wastewater Treatment Facility. It is our understanding that the information will be utilized to refine the economic impact analysis from the City of Merced Case Study.

One qualification we submit regarding the enclosed data is that cyanide, dutifully reported as having been detected in POTW effluent in 1994 and 1995, was likely not actually present. It has been demonstrated that nitrogen interference during cyanide analysis of chlorinated samples will often result in falsely positive results. To prevent this, EPA has approved a sulfamic acid scrubbing procedure to counter the interference. That procedure was not practiced by our analyzing laboratories until 1996. No contributor of cyanide has been identified in Merced, and, it has never been detected either at the influent or primary effluent of our plant. The sulfamic acid scrubbing procedure was incorporated in the analytical procedures during 1996, and there have been no detections of cyanide in POTW effluent since.

If there are any questions please do not hesitate to contact me at (209) 385-8693.

Response to: CTR-093-001

EPA has removed cyanide from its economic analysis for the final CTR because EPA's analysis of existing data and facility information resulted in no determinations of reasonable potential for cyanide.

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Subject Matter Code: E-01g06 Reasonable Potential

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Comment ID: CTR-021-016

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: E-01g06 Reasonable Potential

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES

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Comment: Appendix III-B states that "The existing permit limits and/or the maximum reported concentrations of copper, nickel, silver, endrin, 1,2-dichlorobenzene, chlorobenzene, chlorodichloromethane, and toluene are less stringent than the projected CTR-based limits".

\* Copper: A reasonable potential analysis of plant performance data indicates that there is a reasonable potential under these grossly conservative and misleading assumptions to exceed both the CTR based maximum daily limit and the average monthly limit.

\* Nickel, silver, and zinc: A reasonable potential analysis of plant performance data indicates that under these grossly conservative and misleading assumptions there is no reasonable potential to exceed the CTR based maximum daily limit. However, if the projected maximum concentrations are compared to the CTR based average monthly limit, there is a reasonable potential for the effluent concentrations to exceed these limits.

\* Organic compounds: See notes for Appendix I-B above.

Response to: CTR-021-016

EPA revised its EA including the use of more recent data. In the revised EA, nickel, silver, and zinc have reasonable potential in the high-end scenario because the facility has existing permit limits, however no load reductions are estimated for these pollutants in either the low- or high-end scenarios.

See also responses to CTR-052-014 and CTR-021-017.

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Subject Matter Code: E-01g08 Discharger Representation

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Comment ID: CTR-034-014a

Comment Author: SCAP

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01g08 Discharger Representation

References: Letter CTR-034 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES E-01b

E-01e

E-01v

J

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Comment: \* In general, we are pleased that EPA prepared an analysis of the economic impacts of the proposed CTR, and that a major portion of EPA's work focused on determining the potential impacts on POTWs. However, we believe that this analysis is based on improper assumptions and inaccurate cost estimates, resulting in unconvincing conclusions. Detailed comments can be found in Attachment 2. A few of the areas of concern are listed below:

- \* Small facilities appear to be under represented in EPA's sample of POTWS, especially for minor dischargers.
- \* The cost triggers used as regulatory relief thresholds are unrealistic, and are not consistent with EPA regulations and policies.
- \* The assumptions used to determine cost estimates for indirect dischargers appear to omit a large proportion of potentially affected industries.
- \* The Economic Analysis does not take into account projected population and industrial growth over time, which may influence effluent quality and quantity. Statewide, the population is projected to grow by nearly 50% by 2020.
- \* The use of average cost estimates masks economic impacts on individual dischargers, which may be particularly acute for small communities.
- \* The economic Analysis ignores the costs that may be incurred by stormwater dischargers and nonpoint sources to reduce loadings so that CTR criteria may be met in ambient waters.

Response to: CTR-034-014a

See responses to CTR-032-004, CTR-035-061, CTR-021-006b, CTR-040-037, CTR-059-018, and CTR-035-048.

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Comment ID: CTR-035-008a

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01g08 Discharger Representation  
References:  
Attachments? N  
CROSS REFERENCES E-01e  
E-01d  
E-01m  
E-01h  
E-01c

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Comment: Finally, we have serious concerns about the accuracy of the draft Economic Analysis and the estimates of the costs and benefits of the draft CTR (see detailed comments in Attachments I and 2). Our primary concerns related to the cost analysis include 1) that the case studies on which the cost analysis is based do not adequately represent the actual population of POTWs in California; 2) the omission of costs that could be incurred by many sectors that contribute to overall loadings, and, hence, can be expected to have to reduce their loadings (e.g., non-SIU indirect dischargers, municipal and industrial stormwater dischargers, agricultural activities, and other nonpoint sources of CTR-regulated pollutants); 3) the use of numerous assumptions that underestimate costs; and 4) the capricious removal of costs that exceed threshold values by assuming that regulatory relief measures will be granted, despite the lack of any proposed regulatory relief trigger in the proposed regulation.

To illustrate the degree of underestimation of costs for the POTW sector alone, we looked at potential compliance costs for the POTW sector. We found that the potential costs for 23 major POTWS. on an annualized basis, may reach \$400 million. We believe that this analysis demonstrates that the potential cost consequences of compliance with effluent limits based on the proposed CTR criteria would easily exceed the \$ 100 million annual cost threshold, especially when the costs of all 313 POTWs in the State are estimated. Thus, we believe that EPA must conclude that the proposed CTR could have significant economic impacts on local governments.

Response to: CTR-035-008a

See responses to CTR-021-005c, CTR-032-004, CTR-040-039, CTR-021-006b, CTR-040-037, and CTR-059-018.

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Comment ID: CTR-035-046a  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01g08 Discharger Representation  
References:  
Attachments? N  
CROSS REFERENCES E-01g09

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Comment: pp. 2-4 - 2-9 (U.S. EPA, 1997b) -- Sampling Strategy In general terms, we support EPA's methodology of stratified sampling to determine costs, although it is not clear whether the POTW sample was stratified appropriately. We believe that inadequate evidence is presented that the sample of case studies reflects the overall population of POTWs, and that extrapolation based on the sample would truly reflect total POTW costs. Little explanation is provided as to how the case study facilities were selected, and little evidence is presented demonstrating the validity of extrapolating from the small sample to the impacted population of POTWs. In particular, we believe that minor facilities were under-represented, and that it is invalid to assure that none of the 185 minor POTWs will incur any costs. We also believe that larger samples of facilities from 0-10 MGD and from 10-100 MGD also would be necessary to obtain valid estimates of POTW costs. In addition, by assuming that existing facilities that contain effluent limits for toxic pollutants were representative facilities and using them as the basis for extrapolation to the universe of potentially affected facilities, EPA may have failed to include a major category of costs. By ignoring the costs of those facilities meeting their current permit limits, EPA is assuming that the facilities they are extrapolating to have similar current permit limits, which was not demonstrated to be the case. Therefore, EPA should reexamine the use of this assumption in the analysis of POTW costs.

Response to: CTR-035-046a

EPA believes that the sample facilities adequately represent the universe of facilities in California. Facilities within the sample demonstrate both compliance and non-compliance with projected CTR limits and, although the sample may not exactly represent the actual proportion of facilities not in compliance with limits, EPA believes that the overall economic analysis uses conservative cost estimation techniques which actually overstate costs. See also response to CTR-059-018.

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Comment ID: CTR-035-063  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01g08 Discharger Representation  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Weaknesses in Cost Analysis The report's cost estimates exhibit a number of significant weaknesses, as follows:

\* Potential impacts on non-point sources merit greater attention than given them in the Analysis. Since non-point sources (e.g., mining/mine tailings; agricultural drainage/runoff; urban runoff/stormwater) are responsible for the great majority of potentially harmful discharges, they will almost certainly be affected by the proposed Rule. Likewise, these sources must be addressed if the benefits estimated by USEPA are to be obtained. Greater examination of these costs would be no more speculative than many of the benefit estimates shown in the report.

Response to: CTR-035-063

See response to CTR-021-006b.

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Comment ID: CTR-038-004a  
Comment Author: Sonoma County Water Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01g08 Discharger Representation  
References:  
Attachments? Y  
CROSS REFERENCES E-01h  
E-01m  
E-01c02

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Comment: 4. The economic analysis is seriously flawed. The major flaws include: (1) failing to do an appropriate sampling of dischargers having little or no dilution; (2) assuming in the high-end cost scenario that a 25% reduction could be achieved through source control and an additional 25% achieved through treatment plant optimization without capital improvements; (3) constraining estimates of potential costs through key assumptions, including the assumption that regulatory relief from the rule would be granted if costs were in excess of certain thresholds; and (4) exaggerating estimates of potential benefits by assuming an end (i.e., achievement of the proposed water quality criteria) that will not result from the rule. The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated. The District's analysis demonstrates that actual costs may be an order of magnitude greater than EPA's \$500/lb threshold and that the benefits are very small.

Response to: CTR-038-004a

See responses to CTR-054-013a, CTR-032-004, CTR-021-008, CTR-040-029a, and CTR-056-018.

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Comment ID: CTR-040-024  
Comment Author: County of Sacramento Water Div  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01g08 Discharger Representation  
References: Letter CTR-040 incorporates by reference letter CTR-027  
Attachments? Y  
CROSS REFERENCES

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Comment: EPA erroneously assumes that minor POTW dischargers (i.e., those with a permitted flow of less than 1.0 mgd) will not incur significant impacts as a result of the CTR.

Response to: CTR-040-024

For analysis of the final CTR, EPA updated its Economic Analysis to reflect the most recent data and information for each sample facility and also increased the sample size for minor facilities. Based on this revised analysis, EPA estimated that minor POTWs will incur costs of approximately \$5,000 per facility per year under the low cost scenario and \$7,800 per facility per year under the high cost scenario. See also response to CTR-058-018.

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Comment ID: CTR-041-020  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01g08 Discharger Representation  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: EPA erroneously assumes that minor POTW dischargers (i.e., those with a permitted flow of less than 1.0 mgd) will not incur significant impacts as a result of the CTR.

Response to: CTR-041-020

See responses to CTR-059-018 and CTR-040-024.

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Comment ID: CTR-044-005a  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01g08 Discharger Representation  
References:  
Attachments? Y  
CROSS REFERENCES E-01h01  
E-01m  
E-02c  
E-01c02  
R  
S

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Comment: We have reviewed the proposed CTR and offer the following comments:

4. EPA's Economic Analysis is seriously flawed. The major flaws include:

(1) failing to do an appropriate sampling of small dischargers having little or no dilution; (2) assuming in the high-end cost scenario that a 25% reduction could be achieved through source control and an

additional 25% achieved through treatment plant optimization without capital improvements; (3) constraining estimates of potential costs through key assumptions, including the assumption that regulatory relief from the rule would be granted if costs were in excess of certain thresholds; and (4) exaggerating estimates of potential benefits by assuming an end (i.e., achievement of the proposed water quality criteria) that will not result from the rule. Additional concerns with the economic analysis are presented in Exhibit F. The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated. Moreover, the flawed economic analysis has led to the erroneous conclusion that the CTR is not a "significant regulatory action" or major rule subject to Presidential Executive Order 12866 and the Unfunded Mandates Reform Act or a rule that affects small entities protected under the Regulatory Flexibility Act. The City, for example, is a small community having a population of under 50,000 and would be greatly impacted by the proposed rule.

Response to: CTR-044-005a

See responses CTR-054-013a, CTR-021-005c, CTR-032-004, CTR-021-008, CTR-040-029a, CTR-056-018, CTR-059-018, and CTR-035-046a.

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Comment ID: CTR-044-015  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01g08 Discharger Representation  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: EPA erroneously assumes that minor POTW dischargers (i.e., those with a permitted flow of less than 1.0 mgd) will not incur significant impacts as a result of the CTR.

Response to: CTR-044-015

See response to CTR-040-024.

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Comment ID: CTR-045-009a  
Comment Author: Sausalito-Marín Sanitary Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: E-01g08 Discharger Representation  
References:  
Attachments? Y  
CROSS REFERENCES E-01h  
E-01m

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Comment: The draft Economic Analysis has serious flaws. It underestimates the costs of the draft CTR and overestimates the benefits. For the cost analysis, EPA should reevaluate the representativeness of the sample used; the omission of impacts on many sectors that contribute to loadings, and hence, can be expected to have to reduce their loadings (e.g., small indirect dischargers, municipal and industrial stormwater dischargers, agricultural activities, and other nonpoint sources); the incorporation of numerous assumptions that underestimate costs; and the assumption to artificially remove costs that exceed threshold values by assuming that regulatory relief measures will be granted, despite the fact that they are not automatically granted through triggers included as part of the proposed regulation.

Response to: CTR-045-009a

See responses to CTR-032-004, CTR-056-018, CTR-021-006b, and CTR-059-018.

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Comment ID: CTR-049-006a

Comment Author: Watereuse Assoc. of California

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: E-01g08 Discharger Representation

References:

Attachments? N

CROSS REFERENCES E-01h

E-01m

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Comment: With respect to other criteria proposed for adoption in the draft CTR, we recommend that USEPA:

4. Review and correct existing flaws in the current "Economic Analysis."

With respect to the Economic Analysis conducted by USEPA, we are concerned that it underestimates the cost of the proposed CTR rule while overestimating its benefits. We suggest that USEPA re-evaluate (1) the representativeness of the sample used; (2) the omission of impacts on many sectors that contribute to loadings; (3) the incorporation of a variety of assumptions that underestimate costs; and (4) the assumption to artificially remove costs that exceed threshold values by incorrectly assuming that regulatory relief measures will be granted. For the benefits analysis, USEPA should utilize more California-specific and recent information. A further problem with the analysis relates to the establishment of criteria that are below analytical detection. Lacking credible data, it was not possible to conduct cost-benefit analyses or determine that any set of control measures would or could lead to compliance. This fundamental inability to utilize established rulemaking procedures requires, in our opinion, further work prior to the promulgation of the criteria.

Response to: CTR-049-006a

See responses CTR-045-011, CTR-032-004, CTR-056-018, CTR-021-006b, CTR-059-018, and CTR-052-014.

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Comment ID: CTR-054-019  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01g08 Discharger Representation  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: EPA erroneously assumes that minor POTW dischargers (i.e., those with a permitted flow of less than 1.0 mgd) will not incur significant impacts as a result of the CTR.

Response to: CTR-054-019

See responses to CTR-059-018 and CTR-040-024.

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Comment ID: CTR-059-018  
Comment Author: Los Angeles County Sanit. Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01g08 Discharger Representation  
References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y  
**CROSS REFERENCES**

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Comment: Economic Analysis

The Sanitation districts commends EPA for preparing an analysis of the economic impacts of the proposed CTR, and for selecting POTWs for half of the case studies. We believe that EPA is correct in thinking that POTWs are likely to experience major impacts as a result of the promulgation of the CTR. However, we believe that this analysis is based on improper assumptions and inaccurate cost estimates, resulting in unconvincing conclusions. Our own attainability and cost analysis indicates that there are indeed fundamental flaws in the cost analysis. A few of the areas of concern are listed below:

\* Small facilities appear to be under-represented in EPA's sample of POTWs, especially for minor dischargers.

Response to: CTR-059-018

EPA acknowledges that evaluating the impact of each individual direct discharger to inland waters, enclosed bays, and estuaries within the State of California would be the most accurate method to determine impacts of the CTR. However, the resources that would be required to perform such an analysis for each of the over 1,241 direct dischargers are beyond the resources typically available for

development of environmental regulations. EPA would have considered well-documented information submitted in comments.

In developing the methodology for estimating the compliance costs for the proposed CTR, time and budget constraints limited EPA's costing review to a subset of the regulated community. However, EPA believes that the sample selected adequately represents the various types of direct dischargers in the State.

EPA acknowledges that minor dischargers were under sampled as compared to the major dischargers. However, by definition, under the NPDES permit program, facilities classified as minor would not be expected to discharge toxic pollutants in toxic amounts. Since the CTR addresses only toxic pollutants, EPA would not expect significant, if any, impact to minor dischargers.

In analyses of the final CTR, EPA increased the sample of minors by five randomly selected facilities to bolster its analysis. EPA estimated costs of \$872 per minor facility under the low scenario, and \$2,682 per minor facility under the high scenario due to the CTR.

EPA also replaced Silvergate with South Bay in the sample in order to improve the estimate of the impacts of the CTR on the electric utility industry. The draft CTR cost analysis included costs for Silvergate, but the facility had closed and the data available were over five years old. The addition of South Bay, an electric utility facility with no costs, to the sample results in a more realistic, lower overall cost estimate for the electric utility industry.

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Comment ID: CTR-059-023a

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01g08 Discharger Representation

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES J

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Comment: Economic Analysis

The Sanitation Districts commends EPA for preparing an analysis of the economic impacts of the proposed CTR, and for selecting POTWs for half of the case studies. We believe that EPA is correct in thinking that POTWs are likely to experience major impacts as a result of the promulgation of the CTR. However, we believe that this analysis is based on improper assumptions and inaccurate cost estimates, resulting in unconvincing conclusions. Our own attainability and cost analysis indicates that there are indeed fundamental flaws in the cost analysis. A few of the areas of concern are listed below:

\* The Economic Analysis ignores the costs that may be incurred by stormwater dischargers and nonpoint sources to reduce loadings so that CTR criteria may be met in ambient waters.

Response to: CTR-059-023a

See response to CTR-021-006b.

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Comment ID: CTR-060-017  
Comment Author: San Diego Gas and Electric  
Document Type: Electric Utility  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01g08 Discharger Representation  
References:

Attachments? N

CROSS REFERENCES

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Comment: PROVISIONS SDG&E DOES NOT SUPPORT

As described in the following comments SDG&E does not support the following provisions:

Economic Analysis is deficient

EPA's economic analysis evaluated a number of discharger categories to estimate the potential costs associated with the adoption of these criteria. One discharger category was electric utilities which evaluated the costs to power plants. EPA's analysis of the electric utility category was deficient for at least two reasons. First, the analysis included two relatively small power plants. Specifically, the assessment included Pacific Gas & Electric's Hunter Point Power Plant (HPPP) and SDG&E's Silver Gate Power Plant (SGPP). Both the HPPP and SGPP are relatively small plants (generating capacities are approximately 396 MW and 230 MW, respectively). The SGPP is no longer in operation and its NPDES permit was rescinded in 1995. In fact, the economic analysis did not evaluate costs to the SGPP because it had not operated for several years. Both PG&E and SDG&E have plants affected by this rule which are larger (e.g., Pittsburgh at 2,060 MW and South Bay Power Plant at 709 MW). Consequently, the cost estimates for the entire category were based on only one small facility representing one water body and are therefore not likely to be representative of the actual costs that will be incurred by electric utilities.

Response to: CTR-060-017

See response to CTR-059-018.

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Comment ID: CTR-066-013a  
Comment Author: Delta Diablo Sanitation Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01g08 Discharger Representation  
References:

Attachments? N

CROSS REFERENCES E-01b01

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Comment: The areas with which we find concerns and the requested changes include the following:

\* The draft Economic Analysis has, from our short review, some serious flaws. It underestimates the costs of the draft to implement the CTR and overestimates the benefits. For the cost analysis, EPA should re-evaluate the representativeness of the sample used; the omission of impacts on many sectors that contribute to loadings and, therefore, can be expected to have to reduce their loadings (e.g., small indirect dischargers, municipal and industrial stormwater dischargers, agricultural activities, and other nonpoint sources); the incorporation of numerous assumptions that underestimate costs; and your assumption that artificially removes costs that exceed threshold values by assuming that regulatory relief measures will be granted, despite the fact that they are not automatically granted through triggers included as part of the proposed regulation.

Response to: CTR-066-013a

See responses to CTR-032-004, CTR-056-018, CTR-021-006b, and CTR-059-018.

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Comment ID: CTR-082-007a

Comment Author: City of Burbank

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: E-01g08 Discharger Representation

References:

Attachments? N

CROSS REFERENCES E-01b

B Comment Period

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Comment: The subject rule has a significant impact on our facility discharge and the citizens of the City. We therefore present the following comments for your consideration to re-open the comment period for this rule in order to facilitate a more complete review by public and in particular by those in the POTW community:

\* The draft economic analysis seems to have serious flaws. It under-estimates the cost of the draft CTR and overstates the benefits. In the cost analysis USEPA should re-evaluate the representativeness of samples used and the omission of impacts on many factors that contribute to loadings, and hence, can be expected to have to reduce their loadings (e.g., small indirect dischargers, municipal and industrial stormwater dischargers, agricultural activities, and other nonpoint sources); the incorporation of numerous assumptions that underestimate costs, and the assumption to artificially remove costs that exceed threshold values by assuming that regulatory relief measures will be granted, despite the fact that they are not automatically granted through triggers included as part of the proposed regulation.

Response to: CTR-082-007a

See responses to CTR-032-004, CTR-056-018, CTR-021-006b, and CTR-059-018.

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Comment ID: CTR-085-016a  
Comment Author: Camarillo Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: E-01g08 Discharger Representation  
References:  
Attachments? N  
**CROSS REFERENCES E-01b01**

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Comment: The District supports the following positions of CASA and SCAP where changes need to be made in the proposed California Toxics Rule:

\* The District agrees with CASA and SCAP that the economic analysis has serious flaws. It underestimates the costs of the draft California Toxics Rule and overestimates the benefits. For the cost analysis, the EPA should evaluate the representativeness of the sample used; the omission of impacts on many sectors that contribute to loadings and hence, can be expected to reduce their loadings (i.e., small indirect dischargers, municipal and industrial stormwater dischargers, agricultural activities and other non-point sources); the incorporation of numerous assumptions that under estimates the costs; and the assumption to artificially remove costs that exceed threshold values by assuming that regulatory relief measures will be granted, despite the fact that they are not automatically granted through triggers included as part of the proposed regulation.

Response to: CTR-085-016a

See responses to CTR-032-004, CTR-056-018, CTR-021-006b, and CTR-059-018.

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Comment ID: CTRH-001-058  
Comment Author: Dave Tucker  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: San Jose Env. Serv. Dept.  
Document Date: 09/17/97  
Subject Matter Code: E-01g08 Discharger Representation  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: There are some things that we do have some concerns with, and that is the uncertainties and assumptions made in the economic analysis.

Although the City strongly believes that California needs certainty in its water quality program process as well as implementation, we are concerned about the potential precedents being set by some uncertainties and assumptions in the federal economic analysis of cost and benefits.

Although the City supported the OMB waiver in order to expedite the standards program promulgation process in California, we are very concerned with what may be potential faults in the federal analysis that

could be carried over to the state planning process.

There are differences between the federal and state acceptance processes. Where the state process requires a much more in-depth analysis of cost incurred by any state water quality planning process, the City believes greater attention should be placed upon nonpoint source control program costs, potential costs that could be incurred to meet criteria now set below detectability, as well as any hidden costs that may be associated with some of the uncertainties and assumptions in the federal financial analysis.

Again, the City will provide much greater detail in its written comments by the end of next week. We thank you for the opportunity to comment and look forward to working with you in the future.

Thank you.

Response to: CTRH-001-058

See responses to CTR-045-011, CTR-02-006b, CTR-021-004, and CTR-004-002.

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Subject Matter Code: E-01g09 Affected Facilities

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Comment ID: CTR-021-004

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: E-01g09 Affected Facilities

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

**CROSS REFERENCES**

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Comment: It is with a sense of reluctance that Sunnyvale joins in CASA/Tri-TAC's adverse comments on the CTR and the EA, and Sunnyvale does so in a spirit of constructive criticism and with an expectation that the Agency will make the necessary adjustments in its approach towards the CTR before the final rule is promulgated. In addition, in the same spirit and with the same expectation, Sunnyvale would like to make the following points on its own behalf:

1. The Inadequacies of the EA. Sunnyvale is gravely concerned that the EA has significantly missed the mark in assessing Sunnyvale's potential costs to comply with the criteria in the CTR. As pointed out in greater detail in the EOA Letter, the methodology used in the EA is fraught with analytical errors and unfounded assumptions, leading to many unanswered questions regarding the costs which Sunnyvale may face in coming into compliance with CTR-based effluent limitations. Accordingly, Sunnyvale urges EPA in the strongest terms not to use Sunnyvale as a representative facility to extrapolate cost information to the remainder of California until the EA is re-done. Use of the EA analysis at this point will result in erroneous, unfounded and misleading results which would be a disservice to EPA's ethical and legal obligations.

We are particularly concerned about the EA's unsupported assumption that Sunnyvale can easily close the gap between current discharge levels for copper and the CTR level for that metal merely by more stringent application of source controls. Sunnyvale already has one of the most stringent source control programs in the U.S., developed after years of careful analysis and in cooperation with the Regional Water Quality Control Board and representatives of a vigorous and concerned environmental community. The available effluent improvements from this avenue have long ago been achieved. The misplaced assumption in the EA tends to grossly and arbitrarily understate costs associated with compliance, particularly the potential for requiring reverse osmosis as the only available means of achieving concentration levels seemingly mandated by the proposed CTR.

Further, we strongly urge EPA to make clear that the overall methodology and approach used in the EA is neither appropriate nor legally sufficient for use by the State of California in promulgating its implementation plan or in promulgating State criteria for the pollutants addressed in the CTR. The gross inadequacies in the EA, which are depicted in the CASA/Tri-TAC letter, could not withstand judicial scrutiny under California's Porter-Cologne Act.

Response to: CTR-021-004

The City of Sunnyvale states that its present source control program is one of the most stringent in the country and that reverse osmosis would be required for compliance with a CTR-based effluent limit for

copper. EPA's revised cost analysis for Sunnyvale indicates that the facility is in compliance with the CTR-based effluent limit for copper and that the addition of reverse osmosis is not justified. As indicated in the Technical Support Document for the Economic Analysis of the Final CTR, the City of Sunnyvale reported one discharge observation for copper between January 1995 and December 1997 above the projected effluent limit for copper (8.03 ug/L). This single exceedance was 8.4 ug/L which is only 4% above the CTR-based permit limit. EPA believes that this violation frequency and the magnitude of the violation do not justify addition of reverse osmosis. Moreover, the projected pollutant loading reduction would likely have minimum pollution control costs. These costs would be associated with controlling discharges of copper using pollution prevention, or by optimizing existing processes (e.g., individual units performance under peak flows or critical conditions) at the POTW.

Note that EPA calculated the projected effluent limit for the City of Sunnyvale using a metal translator factor of 2.6 and a saltwater dissolved criterion of 3.1 ug/L. Additionally, the projected limit used was adjusted using statistical methods to account for effluent variability and different averaging periods. The resulting effluent limit is comparable to the copper limit established in the 1998 NPDES permit issued to the facility (8.6 ug/L).

The State is not required to use the EPA's Economic Analysis (EA) in promulgating its proposed implementation plan. While EPA and the State have worked very closely to gather the data necessary to develop their respective economic analyses, the State's economic analysis for its proposed implementation plan is different than EPA's. The State tailored the information gathered and reported in the EPA's EA to reflect the specific proposed policies in the State plan.

Although EPA disagrees with commenters that claim that EPA's EA is inappropriate for use by the State, EPA does believe that the State is under no obligation to use EPA's EA and may choose alternative methodologies for its economic analysis in support of State water quality policy or regulation.

See responses to CTR-021-017 and CTR-035-011a.

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Comment ID: CTR-035-046b  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01g09 Affected Facilities  
References:  
Attachments? N  
CROSS REFERENCES E-01g08

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Comment: pp. 2-4 - 2-9 (U.S. EPA, 1997b) -- Sampling Strategy In general terms, we support EPA's methodology of stratified sampling to determine costs, although it is not clear whether the POTW sample was stratified appropriately. We believe that inadequate evidence is presented that the sample of case studies reflects the overall population of POTWs, and that extrapolation based on the sample would truly reflect total POTW costs. Little explanation is provided as to how the case study facilities were selected, and little evidence is presented demonstrating the validity of extrapolating from the small sample to the impacted population of POTWs. In particular, we believe that minor facilities were under-represented, and that it is invalid to assure that none of the 185 minor POTWs will incur any costs. We also believe

that larger samples of facilities from 0-10 MGD and from 10-100 MGD also would be necessary to obtain valid estimates of POTW costs. In addition, by assuming that existing facilities that contain effluent limits for toxic pollutants were representative facilities and using them as the basis for extrapolation to the universe of potentially affected facilities, EPA may have failed to include a major category of costs. By ignoring the costs of those facilities meeting their current permit limits, EPA is assuming that the facilities they are extrapolating to have similar current permit limits, which was not demonstrated to be the case. Therefore, EPA should reexamine the use of this assumption in the analysis of POTW costs.

Response to: CTR-035-046b

See responses to CTR-059-018 and CTR-040-024.

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Comment ID: CTR-035-048

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01g09 Affected Facilities

References:

Attachments? N

CROSS REFERENCES

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Comment: pp. 2-36 - 2-37 (U.S. EPA, 1997b) -- Use of Average Cost Estimates for Extrapolation EPA's use of average costs to estimate individual POTW costs masks a significant range in expenditures, indicating that some communities will be much more significantly impacted than others. By using averages for extrapolation rather than the full range, total cost estimates are likely to be severely underestimated.

Response to: CTR-035-048

EPA selected sample facilities in order to represent different industry categories, but also various facility sizes with different flow magnitudes. For example, EPA analyzed POTW facilities which fell into three flow categories representing facilities serving very large, medium, and small communities. Costs were averaged for the sample facilities within each flow category for an industry type and then extrapolated to the universe of facilities which matched the industry type and the range in flow for that flow category. Thus, costs calculated for facilities operating in very large communities would not be applied to facilities serving very small communities. See also response to CTR-059-018.

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Subject Matter Code: E-01g10 Toxic Pound Equivalents

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Comment ID: CTR-052-012

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01g10 Toxic Pound Equivalents

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

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Comment: Cost per Toxic Pound Removed

Removal of copper by pollution prevention methods would be marginally cost effective. Pollution prevention of 10% of the Authority's annual copper load would result in a removal of 262 pounds per year from the Bay. Using the toxic weight factor from the EA, 0.47 results in a removal of 123 toxic pounds. Using the annual cost of \$56,952 from the Larry Walker analysis results in a removal cost of \$462 per pound. This approaches the high end of \$500 per pound cited by EPA.

Removal of organics would not be cost effective. No toxic weights are listed for the PAHS, so this analysis is only for Heptachlor, which has a toxic weight of 4,100. Assuming that carbon adsorption removes 95% of the Heptachlor, and using the maximum recorded value of 0.018 ug/L results in the following:

$(0.95)(0.018 \text{ ug/L})(4,100)(65 \text{ MGD})(365 \text{ days/year})(8.34 \text{ lbs/gal})(1 \text{ mg/1000 ug})=$

13,872 toxic pounds per year

Using the annualized cost for carbon adsorption of \$44,200,000 per year results in a removal cost of \$3,186 per toxic pound. This figure is 6-16 times the threshold cost range cited by EPA of \$200-\$500 per toxic pound. In actual practice, the costs would even be higher since much of the data is non-detect with MDLs as low as 0.007 ug/L.

Response to: CTR-052-012

See response to CTR-004-003.

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Subject Matter Code: E-01h Treatment Assumptions

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Comment ID: CTR-003-011

Comment Author: City of Riverside

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: E-01h Treatment Assumptions

References:

Attachments? N

**CROSS REFERENCES**

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Comment: 11) What justification does the EPA have for assuming that, "If all monitoring data reported for a facility were reported as below analytical detection levels, even if the reported detection limit was above EPA approved analytical method detection levels, it was assumed that no reasonable potential existed to exceed CTR-based WQBELs".? Can permit holders make the same assumption to assess reasonable potential when applying for new permits?

Response to: CTR-003-011

The NPDES permit regulations in 40 CFR 122.44(d) and 123.25 require that WQBELs be derived for toxic pollutants that are discharged at a level that has a reasonable potential to exceed water quality standards. EPA believes that the approach used to determine reasonable potential to exceed CTR-based effluent limitations in its economic analysis was reasonable. This is particularly the case for the high cost scenario. Under this scenario, when any pollutant for which a limit for a toxic pollutant already existed in the current NPDES permit for a sample facility, it was assumed that a reasonable potential existed to exceed a CTR-based limit and the pollutant was included for further analysis. For pollutants that were not limited in the existing permit for a sample facility, but were detected in the effluent (as reported in the permit application, or as a result of special monitoring conditions contained in the NPDES permit), an analysis was conducted to determine if a reasonable potential existed to exceed CTR-based limits using the method recommended in EPA's Technical Support Document for Water Quality-based Toxics Control (1991). If all monitoring data reported for a facility were reported as below analytical detection levels, even if the reported detection limit was above EPA-approved analytical method detection levels, EPA assumed that no reasonable potential existed to exceed CTR-based WQBELs. Although EPA acknowledged in its economic analysis that this assumption could underestimate the impact of implementing the CTR, it most likely reflects the actual procedures that would be used by the State Regional Water Quality Control Boards (RWQCBs) because the discharger would not be subject to enforcement at any level below quantifiable analytical detection levels.

In estimating potential costs associated with the final rule, EPA also made an effort to ensure that all relevant and current information related to the possible presence of a pollutant in a sample facility discharge was collected. Specifically, all current information and data (including permits, fact sheets, permit applications, and other relevant discharge information) were updated and verified for each sample facility. In addition, each of the State RWQCBs were contacted to provide comments and additional information as necessary to ensure accurate reflection of current permit requirements and discharge conditions. Finally, permit and monitoring data submitted as a part of the public comments were reviewed and considered.

Reference: U.S. EPA. 1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001

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Comment ID: CTR-003-013

Comment Author: City of Riverside

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: E-01h Treatment Assumptions

References:

Attachments? N

CROSS REFERENCES

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Comment: 13) The City has reviewed those sections of the economic impact report which dealt directly with it's treatment plant. Although we have not had the time to address directly the cost impacts, we can comment on the assumptions that were used. EPA finds that we may have problems meeting metals objectives and suggests that they can be solved by chemically assisted clarification and additional pollution prevention/ waste minimization controls. It should be noted that the City has used both of these techniques for many years. With minor exceptions for waste minimization, it is unlikely that further reductions can be attained by either method. Waste minimization is cited as the answer to potential problems with chloroform. EPA needs to be aware that chloroform is a byproduct of the wastewater treatment process where chlorine disinfection is involved. Waste minimization will not help. It would be more appropriate to assume that the disinfection process would need to change to ultra violet or a similar non-chlorinated method. Capital costs would likely range around three to four million dollars with operating costs near one million dollars per year.

Response to: CTR-003-013

See response to CTR-004-003.

EPA agrees that chloroform is most likely a disinfection by-product (DBP) in wastewater treatment plants that use chlorination as the means for disinfection and that UV is an alternative technology that eliminates the presence of chloroform in the effluent. However, it should be noted that process optimization in the chlorination units is a viable and relatively low-cost pollution control alternative that can be used to reduce the discharge of chloroform and other DBPs (Truax, 1992; U.S. EPA, 1992; U.S. EPA, 1990) to levels in compliance with projected CTR-based limits. Process optimization is used to control DBPs in the final economic analysis of the CTR.

References:

Truax, Dennis D. 1992. "Optimization of Wastewater Treatment Plant Systems". Water Environment Research. 64(4): 400-02.

U.S. EPA. 1992. Standardized Costs for Water Supply Distribution Systems. Gummerman, R., Burris, B., and Burris D. EPA 600/R-92/009. Cincinnati, OH.

U.S. EPA. 1990. Optimized Water Treatment Plant Performance with the Composite Correction

Program. Summary Report. EPA 600/8-90/017. Cincinnati, OH.

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Comment ID: CTR-021-009

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: E-01h Treatment Assumptions

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

#### CROSS REFERENCES

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Comment: The Estimated CTR Plant Optimization Compliance Costs for Sunnyvale are Under Estimated by One to Two Orders of Magnitude (10 to 100 times low)

The projected average cost per POTW under the high-end scenario of \$480,000 per year (p. 4-12) is low by a factor of 10 to 100 based on Sunnyvale's situation and analysis (as cited in Appendix I-B-11). There is no support provided for the key assumption that "many of the sample facilities already possessed treatment processes that could be enhanced potentially to achieve CTR-based effluent limits" and "Therefore increased O&M was assumed adequate to comply with CTR-based effluent limits (as opposed to installing new treatment equipment). (p. 4-13).

Secondary treatment facilities with dual media filtration, such as Sunnyvale, are not specifically designed for metals or toxic organics removal. The removals that occur are an incidental function of the secondary biological treatment and solids separation processes. It is not technically possible to "dial-in" an additional 10-25% as has been assumed, particularly for facilities such as Sunnyvale, that already have low influent concentrations due to past implementation extensive source control, pollution prevention, and waste minimization measures. The presumption regarding plant optimization apparently mistakenly assumes that percent removal is a linear function instead of an asymptotic one. It is much more difficult to remove an additional 10-25% when the effluent contains only 5-10 ug/l versus say 20-50 ug/L when more of the copper is likely particulate (associated with solids) versus soluble and more amenable to removal through potential chemical addition to enhance solids removal.

Sunnyvale already achieves 85-90% metals removal and the majority of metals remaining are in the dissolved form. This information was submitted to EPA, as input for the Case Study, in an EOA September 23, 1996 memo (incorporated herein by reference). As stated in that memo, the low-end treatment option (high lime treatment) with an annual cost of \$9.8 million, was not guaranteed to consistently achieve a 4.9 ug/L copper effluent limit. Only the reverse osmosis based treatment option, at \$42.1 million per year could likely produce effluent in the 4.9 ug/L copper range, since this is a maximum limit (i.e. never to be exceeded) not an average limit as incorrectly assumed in the CTR (see below). EPA need to provide, in the CTR, the specific plant performance data, apparently from the RREL Treatability Database, that supports the contention that minor levels (\$100,000) of plant optimization can achieve the proposed low part per billion metals concentrations.

Response to: CTR-021-009

See responses to CTR-021-017 and CTR-004-003.

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Comment ID: CTR-035-008e  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01h Treatment Assumptions  
References:  
Attachments? N  
CROSS REFERENCES E-01g08  
E-01e  
E-01d  
E-01m  
E-01c

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Comment: Finally, we have serious concerns about the accuracy of the draft Economic Analysis and the estimates of the costs and benefits of the draft CTR (see detailed comments in Attachments I and 2). Our primary concerns related to the cost analysis include 1) that the case studies on which the cost analysis is based do not adequately represent the actual population of POTWs in California; 2) the omission of costs that could be incurred by many sectors that contribute to overall loadings, and, hence, can be expected to have to reduce their loadings (e.g., non-SIU indirect dischargers, municipal and industrial stormwater dischargers, agricultural activities, and other nonpoint sources of CTR-regulated pollutants); 3) the use of numerous assumptions that underestimate costs; and 4) the capricious removal of costs that exceed threshold values by assuming that regulatory relief measures will be granted, despite the lack of any proposed regulatory relief trigger in the proposed regulation.

To illustrate the degree of underestimation of costs for the POTW sector alone, we looked at potential compliance costs for the POTW sector. We found that the potential costs for 23 major POTWS. on an annualized basis, may reach \$400 million. We believe that this analysis demonstrates that the potential cost consequences of compliance with effluent limits based on the proposed CTR criteria would easily exceed the \$ 100 million annual cost threshold, especially when the costs of all 313 POTWs in the State are estimated. Thus, we believe that EPA must conclude that the proposed CTR could have significant economic impacts on local governments.

Response to: CTR-035-008e

See responses to CTR-021-005c, CTR-032-004, CTR-040-039, CTR-021-006b, CTR-040-037, and CTR-059-018.

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Comment ID: CTR-038-004b  
Comment Author: Sonoma County Water Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01h Treatment Assumptions  
References:

Attachments? Y  
CROSS REFERENCES E-01g08  
E-01m  
E-01c02

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Comment: 4. The economic analysis is seriously flawed. The major flaws include: (1) failing to do an appropriate sampling of dischargers having little or no dilution; (2) assuming in the high-end cost scenario that a 25% reduction could be achieved through source control and an additional 25% achieved through treatment plant optimization without capital improvements; (3) constraining estimates of potential costs through key assumptions, including the assumption that regulatory relief from the rule would be granted if costs were in excess of certain thresholds; and (4) exaggerating estimates of potential benefits by assuming an end (i.e., achievement of the proposed water quality criteria) that will not result from the rule. The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated. The District's analysis demonstrates that actual costs may be an order of magnitude greater than EPA's \$500/lb threshold and that the benefits are very small.

Response to: CTR-038-004b

See responses to CTR-054-013a, CTR-032-004, CTR-021-008, CTR-040-029a, and CTR-056-018.

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Comment ID: CTR-040-032  
Comment Author: County of Sacramento Water Div  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01h Treatment Assumptions  
References: Letter CTR-040 incorporates by reference letter CTR-027  
Attachments? Y  
CROSS REFERENCES

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that effluent metals levels can be reduced to the low levels necessary to ensure compliance without any capital costs, by adding lime to existing primary tanks.

Response to: CTR-040-032

The U.S. EPA Treatability Database indicates that chemical precipitation with addition of lime is a technology capable of removing metals at the concentrations and loading reductions required. For example, several treatment plants have reached concentrations of 7.7 ug/L for copper based on a pilot study (CTR-based level for copper is 8.03 ug/L) and 0.46 ug/L for silver (CTR-based level for silver is 1.51 ug/L) (U.S.EPA RREL). Some of the sample facilities already have a clarification system in place, therefore, only capital costs for the lime feeding and conveying system need to be considered. For facilities without clarifiers, the capital cost of a primary clarifier is also included in EPA's cost estimates. EPA's cost estimates are based on EPA's Treatability Manual (1980) and are adjusted for inflation.

References: U.S. EPA. 1980. Treatability Manual, Volume IV, Cost Estimating. U.S. EPA Risk Reduction Engineering Laboratory (RREL). Cincinnati, Ohio. Treatability Database.

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Comment ID: CTR-040-038

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01h Treatment Assumptions

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: EPA may have greatly underestimated the cost of metals removal. EPA assumed that significant metals reductions could be achieved without any capital costs by adding lime to existing primary sedimentation tanks. But, this would increase the amount of primary sludge produced (as much as 5 times at high lime dosages) and could therefore necessitate additional sludge handling costs. Further, there is no evidence that addition of lime to the primary sediment tanks could achieve the low effluent levels required to achieve some of the metals criteria (e.g., the saltwater copper criteria). Most engineers who have addressed this issue have assumed that tertiary lime treatment would be necessary. In the Bay Area Dischargers Association analysis, tertiary limetreatment was six times the cost of primary lime addition.

Response to: CTR-040-038

See response to CTR-040-032.

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Comment ID: CTR-041-028

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01h Treatment Assumptions

References:

Attachments? N

CROSS REFERENCES

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that effluent metals levels can be reduced to the low levels necessary to ensure compliance without any capital costs, by adding lime to existing primary tanks.

Response to: CTR-041-028

See response to CTR-040-032.

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Comment ID: CTR-041-034  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01h Treatment Assumptions  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: EPA may have greatly underestimated the cost of metals removal. EPA assumed that significant metals reductions could be achieved without any capital costs by adding lime to existing primary sedimentation tanks. But, this would increase the amount of primary sludge produced (as much as 5 times at high lime dosages) and could therefore necessitate additional sludge handling costs. Further, there is no evidence that addition of lime to the primary sediment tanks could achieve the low effluent levels required to achieve some of the metals criteria (e.g., the saltwater copper criteria). Most engineers who have addressed this issue have assumed that tertiary lime treatment would be necessary. In the Bay Area Dischargers Association analysis, tertiary lime treatment was six times the cost of primary lime addition.

Response to: CTR-041-034

EPA assigned separate costs for residuals removal (including sludge) where it was appropriate. EPA did not add any residuals removal costs to Sacramento Regional Wastewater Treatment Plant in association with the process optimization study that was assigned in EPA's cost estimate for the facility. EPA disagrees that lime addition cannot meet the CTR-based limits; see response to CTR-040-032.

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Comment ID: CTR-043-004b  
Comment Author: City of Vacaville  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01h Treatment Assumptions  
References:  
Attachments? Y  
CROSS REFERENCES E-01g  
E-01m  
E-02c  
E-01c02

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Comment: 4. EPA's Economic Analysis is seriously flawed. The major flaws include:

- (1) failing to do an appropriate sampling of small dischargers having little or no dilution;
- (2) assuming in the high-end cost scenario that a 25% reduction could be achieved through source control and an additional 25% achieved through treatment plant optimization without capital improvements;
- (3) constraining estimates of potential costs through key assumptions, including the assumption that regulatory relief from the rule would be granted if costs were in excess of certain thresholds; and
- (4) exaggerating estimates of potential benefits by assuming an end (i.e., achievement of the proposed water quality criteria) that will not result from the rule.

The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated. Moreover, the flawed economic analysis has led to the erroneous conclusion that the CTR is not a "significant regulatory action" or major rule subject to Presidential Executive Order 12866 and the Unfunded Mandates Reform Act or a rule that affects small entities protected under the Regulatory Flexibility Act.

Response to: CTR-043-004b

See responses to CTR-054-013a, CTR-021-005c, CTR-032-004, CTR-021-008, CTR-040-029a, CTR-056-018, and CTR-059-018.

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Comment ID: CTR-044-023  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01h Treatment Assumptions  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that effluent metals levels can be reduced to the low levels necessary to ensure compliance without any capital costs, by adding lime to existing primary tanks.

Response to: CTR-044-023

See response to CTR-040-032.

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Comment ID: CTR-044-029  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA

Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01h Treatment Assumptions  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: EPA may have greatly underestimated the cost of metals removal. EPA assumed that significant metals reductions could be achieved without any capital costs by adding lime to existing primary sedimentation tanks. But, this would increase the amount of primary sludge produced (as much as 5 times at high lime dosages) and could therefore necessitate additional sludge handling costs. Further, there is no evidence that addition of lime to the primary sediment tanks could achieve the low effluent levels required to achieve some of the metals criteria (e.g., the saltwater copper criteria). Most engineers who have addressed this issue have assumed that tertiary lime treatment would be necessary. In the Bay Area Dischargers Association analysis, tertiary lime treatment was six times the cost of primary lime addition.

Response to: CTR-044-029

See response to CTR-040-032.

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Comment ID: CTR-045-009b  
Comment Author: Sausalito-Marin Sanitary Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: E-01h Treatment Assumptions  
References:  
Attachments? Y  
CROSS REFERENCES E-01g08  
E-01m

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Comment: The draft Economic Analysis has serious flaws. It underestimates the costs of the draft CTR and overestimates the benefits. For the cost analysis, EPA should reevaluate the representativeness of the sample used; the omission of impacts on many sectors that contribute to loadings, and hence, can be expected to have to reduce their loadings (e.g., small indirect dischargers, municipal and industrial stormwater dischargers, agricultural activities, and other nonpoint sources); the incorporation of numerous assumptions that underestimate costs; and the assumption to artificially remove costs that exceed threshold values by assuming that regulatory relief measures will be granted, despite the fact that they are not automatically granted through triggers included as part of the proposed regulation.

Response to: CTR-045-009b

See responses to CTR-032-004, CTR-056-018, CTR-021-006b, and CTR-059-018.

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Comment ID: CTR-049-006b  
Comment Author: Watereuse Assoc. of California  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: E-01h Treatment Assumptions  
References:  
Attachments? N  
CROSS REFERENCES E-01g08  
E-01m

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Comment: With respect to other criteria proposed for adoption in the draft CTR, we recommend that USEPA:

4. Review and correct existing flaws in the current "Economic Analysis."

With respect to the Economic Analysis conducted by USEPA, we are concerned that it underestimates the cost of the proposed CTR rule while overestimating its benefits. We suggest that USEPA re-evaluate (1) the representativeness of the sample used; (2) the omission of impacts on many sectors that contribute to loadings; (3) the incorporation of a variety of assumptions that underestimate costs; and (4) the assumption to artificially remove costs that exceed threshold values by incorrectly assuming that regulatory relief measures will be granted. For the benefits analysis, USEPA should utilize more California-specific and recent information. A further problem with the analysis relates to the establishment of criteria that are below analytical detection. Lacking credible data, it was not possible to conduct cost-benefit analyses or determine that any set of control measures would or could lead to compliance. This fundamental inability to utilize established rulemaking procedures requires, in our opinion, further work prior to the promulgation of the criteria.

Response to: CTR-049-006b

See responses CTR-045-011, CTR-032-004, CTR-056-018, CTR-021-006b, CTR-059-018, and CTR-052-014.

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Comment ID: CTR-054-027  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01h Treatment Assumptions  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that effluent metals levels can be reduced to the low levels necessary to ensure compliance without any capital costs, by adding lime to existing primary tanks.

Response to: CTR-054-027

See response to CTR-040-032.

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Comment ID: CTR-054-033

Comment Author: Bay Area Dischargers Associati

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01h Treatment Assumptions

References:

Attachments? N

**CROSS REFERENCES**

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Comment: EPA may have greatly underestimated the cost of metals removal. EPA assumed that significant metals reductions could be achieved without any capital costs by adding lime to existing primary sedimentation tanks. But, this would increase the amount of primary sludge produced (as much as 5 times at high lime dosages) and could therefore necessitate additional sludge handling costs. Further, there is no evidence that addition of lime to the primary sediment tanks could achieve the low effluent levels required to achieve some of the metals criteria (e.g., the saltwater copper criteria). Most engineers who have addressed this issue have assumed that tertiary lime treatment would be necessary. In the Bay Area Dischargers Association analysis, tertiary lime treatment was six times the cost of primary lime addition.

Response to: CTR-054-033

See response CTR-040-032.

In estimating compliance costs for facilities, EPA included costs associated with solid waste disposal costs as part of operation and maintenance costs for sample facilities.

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Comment ID: CTR-086-003

Comment Author: EOA, Inc.

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org: California Dent

Document Date: 09/26/97

Subject Matter Code: E-01h Treatment Assumptions

References: Letter CTR-086 incorporates by reference letter CTR-035

Attachments? N

**CROSS REFERENCES**

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Comment: CDA is a strong supporter of water quality and human health protection. CDA's primary goals in commenting on the draft CTR are to request that mercury criteria be based on sound science and that mercury regulation be implemented via a watershed management, phased TMDL-type approach.

CDA is particularly concerned that the CTR does not adequately assess the economic impacts on indirect dischargers nor the extent to which there will be measurable water quality benefits solely from adoption of the proposed mercury criteria for point sources.

#### Economic Analysis

CDA supports CASA/Tri-TAC's conclusions that the Economic Analysis has significant technical weaknesses, is based on a large number of assumptions and minimal empirical data, and that it understates costs and overestimates benefits. The analysis found that mercury reductions of 80.4% and 51.7% would be required under the high-end and low-end scenarios, respectively. The economic analysis needs to evaluate costs and feasibility of attainability based on actual treatment plant mercury removal performance data with associated detection limits. It also needs to evaluate costs under the scenario that dilution credit would be eliminated when calculating effluent limits for bioaccumulative constituents of concern, such as mercury, for deepwater dischargers within or capable of impacting mercury nonattainment areas.

Response to: CTR-086-003

EPA did examine detailed treatment information and pollutant removal performance data at the sample facilities to evaluate the feasibility and potential costs of meeting CTR-based WQBELs. EPA estimated that seven facilities would incur costs to meet the CTR-based effluent limits for mercury. When this information was limited, the assessment of pollutant removal feasibility was also based upon the reviewing engineer's best professional judgement using general knowledge of industrial and municipal operations.

Dilution factors used to calculate water quality based effluent limits were based on the dilution allowed within the current waste discharge requirements for each sample facility. Of the 20 sample facilities, only four were provided with dilution factors. WQBELs for the remaining facilities were based on a dilution of zero. When this sample is extrapolated to the universe, over 94% of point source dischargers are estimated to not be allowed dilution. EPA believes that this is a highly conservative estimate that will likely overestimate potential costs.

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Comment ID: CTRH-002-016b  
Comment Author: Lisa Ohlund  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Alliance of So. CA POTWs  
Document Date: 09/18/97  
Subject Matter Code: E-01h Treatment Assumptions  
References:  
Attachments? N  
CROSS REFERENCES E-01c2

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Comment: And finally, I'd like to comment on the analysis of the economic impact of the CTR. We

believe that the analysis does not portray a reasonable picture of what the potential costs and benefits may result from the promulgation of this CTR. In our opinion, the cost analysis contains many flawed assumptions that result in severe underestimation of the total potential costs, and we're particularly concerned about the use of process optimization and how it was relied upon.

Likewise, the benefits, while admittedly difficult to estimate, appear tenuous at best. The bottom line is that we are concerned that this analysis does not properly reveal that the CTR can lead to requirements for large expenditures by POTWs in Southern California with questionable benefits to the environment. We recommend that EPA carefully redo its economic analysis to portray a more accurate picture of the potential costs and benefits.

Thank you again for this opportunity. We look forward to submitting our comments in writing.

Response to: CTRH-002-016b

See responses CTR-054-013a, CTR-035-057, CTR-056-018, and CTR-004-003.

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Subject Matter Code: E-01h01 25% Reduction Assumption

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Comment ID: CTR-040-029b  
Comment Author: County of Sacramento Water Div  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01h01 25% Reduction Assumption  
References: Letter CTR-040 incorporates by reference letter CTR-027  
Attachments? Y  
CROSS REFERENCES E-01q01

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that POTWs can achieve a 25% reduction through source control and an additional 25% reduction through treatment plant optimization.

Response to: CTR-040-029b

See response to CTR-040-029a.

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Comment ID: CTR-041-025b  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01h01 25% Reduction Assumption  
References:  
Attachments? N  
CROSS REFERENCES E-01q01

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that POTWs can achieve a 25% reduction through source control and an additional 25% reduction through treatment plant optimization.

Response to: CTR-041-025b

See response to CTR-040-029a.

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Comment ID: CTR-044-005b  
Comment Author: City of Woodland

Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01h01 25% Reduction Assumption

References:

Attachments? Y

CROSS REFERENCES E-01g08

E-01m

E-02c

E-01c02

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Comment: We have reviewed the proposed CTR and offer the following comments:

4. EPA's Economic Analysis is seriously flawed. The major flaws include:

(1) failing to do an appropriate sampling of small dischargers having little or no dilution; (2) assuming in the high-end cost scenario that a 25% reduction could be achieved through source control and an additional 25% achieved through treatment plant optimization without capital improvements; (3) constraining estimates of potential costs through key assumptions, including the assumption that regulatory relief from the rule would be granted if costs were in excess of certain thresholds; and (4) exaggerating estimates of potential benefits by assuming an end (i.e., achievement of the proposed water quality criteria) that will not result from the rule. Additional concerns with the economic analysis are presented in Exhibit F. The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated. Moreover, the flawed economic analysis has led to the erroneous conclusion that the CTR is not a "significant regulatory action" or major rule subject to Presidential Executive Order 12866 and the Unfunded Mandates Reform Act or a rule that affects small entities protected under the Regulatory Flexibility Act. The City, for example, is a small community having a population of under 50,000 and would be greatly impacted by the proposed rule.

Response to: CTR-044-005b

See responses to CTR-054-013a, CTR-021-005c, CTR-032-004, CTR-040-029a, and CTR-056-018.

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Comment ID: CTR-044-020b

Comment Author: City of Woodland

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01h01 25% Reduction Assumption

References:

Attachments? N

CROSS REFERENCES E-01q01

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is

anything but conservative:

\* It is not conservative to assume that POTWs can achieve a 25% reduction through source control and an additional 25% reduction through treatment plant optimization.

Response to: CTR-044-020b

See response to CTR-040-029a.

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Comment ID: CTR-054-024b

Comment Author: Bay Area Dischargers Associati

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01h01 25% Reduction Assumption

References:

Attachments? N

CROSS REFERENCES E-01q01

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that POTWs can achieve a 25% reduction through source control and an additional 25% reduction through treatment plant optimization.

Response to: CTR-054-024b

See response to CTR-040-029a.

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Subject Matter Code: E-01h02 Unit Cost Assumptions

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Comment ID: CTRH-001-037c  
Comment Author: Robert Reid  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: CASA  
Document Date: 09/17/97  
Subject Matter Code: E-01h02 Unit Cost Assumptions  
References:  
Attachments? N  
CROSS REFERENCES E-01c02  
E-01q03

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Comment: Second, the interaction between the CTR and the state's implementation policy is particularly important given our second concern, which is namely that the EPA's economic evaluation underestimates the costs and overestimates the benefits of implementing this rule.

Our concern about the cost estimates is based on the fact that the cost analysis appears to undervalue the magnitude of difficulty dischargers will have complying with permits issued based on this rule.

We are also concerned that the cost estimates for various compliance activities such as source control and treatment process optimization made in the case studies are overly optimistic and not reflective of the true actions that will need to be taken to insure compliance.

Overall, we are concerned that the expenditures that may be necessary for many POTWS to comply with the CTR will be large, these costs may not be matched by commensurate benefits, and that EPA has not analyzed whether point source controls are in fact a cost-effective way to achieve water quality standards.

Our preliminary analysis for just five agencies in the Bay Area to comply with the proposed standard for copper alone could amount to more than \$60 million per year -- 60 million. This number would be far higher if calculated for every pollutant listed in the CTR for the entire POTW industry in California.

Since this estimate would undoubtedly exceed the high end of the range contained in EPA's analysis, we believe it is necessary for EPA to redo the economic analysis to fully comply with its legal responsibilities.

In addition, revised economic analysis is necessary to provide a sound basis for the State to use in its analysis of the economic impacts of the implementation policy.

Response to: CTRH-001-037c

See responses to CTR-041-018, CTR-035-057, CTR-056-018, CTR-004-003, and CTR-040-039.

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Subject Matter Code: E-01i Alternative Cost Analysis

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Comment ID: CTR-003-012  
Comment Author: City of Riverside  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: E-01i Alternative Cost Analysis

References:

Attachments? N

**CROSS REFERENCES**

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Comment: 12) The cost analysis suggests that there is little difference between the cost of using a risk level of 10E-6 versus 10E-5. The reason for that is in all likelihood the fact that many of these criteria are below the detection level at both risk levels. Under the assumptions used there would be no cost to either scenario.

Response to: CTR-003-012

As part of its revised cost analysis, EPA estimated the changes in estimated costs and pollutant load reductions based on the lower risk level of 10-5. Under the low scenario, costs decrease by \$1.1 million, approximately 11% less than the costs based on the higher risk level. Under the high scenario, annual costs decrease by \$5.8 million, also an 11% decrease from the costs based on a 10-6 risk level. Pollutant load reductions attributable to use of a lower risk level are estimated to decrease by approximately 4% and 1% under the low and high scenarios, respectively. The relatively low sensitivity of costs to the change in risk level primarily is related to the fact that most of the potential costs related to implementing the CTR are being driven by metals. Changes in risk levels for carcinogens primarily affect organic pollutants.

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Comment ID: CTR-021-015  
Comment Author: LeBoeuf, Lamb, Green & MacRae  
Document Type: Local Government  
State of Origin: CA  
Represented Org: City of Sunnyvale  
Document Date: 09/25/97  
Subject Matter Code: E-01i Alternative Cost Analysis  
References: Letter CTR-021 incorporates by reference letter CTR-035  
Attachments? Y

**CROSS REFERENCES**

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Comment: Appendix III-B:

The analysis conducted in Appendix III-B is essentially the same as that shown in the previous appendices, except that it is assumed that the dissolved criteria converts directly to a total criteria (translator =I). The implication of this is methodological assumption that 100% of the total pollutants discharged in the effluent are in dissolved form. Results from this appendix represent an absolute worst

case, are misleading and inappropriate. It has been shown that the assumptions used to generate the analysis in Appendix I-B (TSS, translator values, and 95%tile values for chronic WLAs) are already highly conservative.

Response to: CTR-021-015

The criteria for metals in the proposed rule are expressed in the dissolved form. Permitting regulations, however, require that permit limits be set in terms of total recoverable metals concentrations. Therefore, permit writers must "translate" dissolved criteria to derive total recoverable permit limits which can be done through a variety of methods. The preferred methodology employs site-specific information to derive the translator. However, since not all site-specific information was available, the base case analysis used a second method, the theoretical partitioning relationship, to estimate the translator. According to recent EPA guidance on translators, this method usually tends to overstate the stringency of the derived permit limit compared to the site-specific method, although it will sometimes understate the stringency (U.S. EPA, 1996). A third method is to simply use the total recoverable criteria that are derived by dividing the dissolved criteria by the conversion factor. This method is very conservative and will, in nearly all cases, result in more stringent permit limits compared to the site-specific method.

EPA performed a sensitivity analysis to estimate the effect of the use of total recoverable criteria on CTR-based WQBELs, total costs, and load reductions. CTR-based WQBELs are calculated using the same methods described in Chapter 4 of EPA's Economic Analysis, except that total recoverable criteria are used in place of dissolved criteria for metals. The analysis shows that a significant increase in costs can be expected by using total recoverable criteria, as compared to the costs of the theoretical partitioning approach used in the base case analysis. Potential annual costs under the low scenario are \$62.4 million per year, an approximately two-fold increase over the estimates in the low base case analysis. Under the high scenario, total costs are estimated to be nearly \$325 million per year, over five times the cost estimates in the base case analysis. Potential load reductions are estimated to increase by approximately 14% over the low base case scenario, and by nearly 7% under the high scenario. Using conversion factors as translators would result in significantly higher costs per toxic pound-equivalent removed than the base case analysis. The cost-effectiveness of the low scenario is \$50 per toxic pound-equivalent removed compared to \$31 per toxic pound-equivalent removed in the base case analysis. The cost-effectiveness of the high scenario is \$111 per toxic pound-equivalent removed compared to \$22 per toxic pound-equivalent removed in the base case analysis.

Although the cost effectiveness for this translator sensitivity analysis is reasonable, EPA believes that the costs estimated from this analysis greatly overstate true costs. EPA expects that in cases where a facility may incur substantial economic impacts due to an effluent limit for a metal, there will be strong incentives for the facility or the state to develop site-specific data, which will result in more realistic translators, thus reducing potential economic impacts. EPA believes that the cost estimates developed using the theoretical partitioning approach in the base case are more realistic than the cost estimates from this sensitivity analysis.

Reference: U.S. EPA. 1996. The Metals Translator: Guidance for Calculation of a Total Recoverable Permit Limit From a Dissolved Criteria.

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Comment ID: CTR-052-005a  
Comment Author: East Bay Dischargers Authority  
Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01i Alternative Cost Analysis

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES E-01d01

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Comment: EPA has greatly understated the potential attainability problems associated with the CTR. This also includes numerous erroneous assumptions made in the EA, such as those described by BADA, CASA/Tri-TAC, and M.Cubed. Larry Walker Associates prepared an Attainability Analysis for the BADA agencies, copy attached. That analysis concluded that BADA agencies will not be able to comply with effluent standards for copper, nickel, pesticides (Aldrin and Heptachlor), and PAHs [Benzo(a)Pyrene, Dibenzo(a,h)Anthracene, and Indeno(1,2,3-cd)Pyrene]. Removals ranging from approximately 20% to nearly 90% will be required. Without major revisions to the CTR, the cost for compliance will be more than \$130,000,000 annually. These costs represent only the BADA agencies. Actual costs for all POTW dischargers to San Francisco Bay would be at least an additional 40%, bringing the total annual cost for San Francisco Bay ratepayers to more than \$185,000,000 on a strictly flow proportional basis. Since the non-BADA POTWs are significantly smaller, capital costs would actually increase due to loss of economy of scale. Therefore, actual costs for San Francisco Bay could easily exceed \$200,000,000 per year - all for the sole purpose of removing between 1-10% of the "Estimated Share of Toxic Loadings Attributable to Point Source."(\*1)

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(\*1)United States Environmental Protection Agency, Office of Water 4301, EPA-820-B-96-001, July 1997, Economic Analysis of the Proposed California Water Quality Toxics Rule, Executive Summary, Page ES-10, Exhibit ES-3. Estimated Share of Toxic Loadings to California Surface Waters Attributable to Point Sources.

Response to: CTR-052-005a

EPA disagrees with the annual compliance cost estimate of \$130 million taken from an attainability analysis performed for BADA. This figure represents the higher of two estimates presented in the BADA analysis and corresponds to the use of tertiary lime addition. The lower cost estimate (\$68 million) presented in the analysis is based on lime addition to primary tanks. The attainability analysis also uses the costs for the City of Merced from EPA's economic analysis of the proposed CTR as a basis for estimating carbon adsorption costs.

In EPA's revised economic analysis, EPA no longer estimates that the City of Merced will need to add costly granular activated carbon (a cost of \$4.2 million annually) to comply with CTR-based limits. EPA's revised analysis indicates that pollution prevention and process optimization (a cost of \$594,000 annually) should be sufficient to ensure compliance with CTR-based limits. If EPA's revised cost estimate were used, the BADA cost estimates would be significantly lower because \$56 million of both estimates is based on the old Merced cost estimate.

The BADA analysis also provides an estimate of costs for San Jose, one of the sample facilities in EPA's detailed cost analysis. The BADA analysis estimates costs of \$7.75 million to \$54.07 million for copper reductions (nickel reductions are included in the pollution prevention costs for copper). BADA

estimated a 54% reduction for copper and a 5% reduction for nickel. EPA's analysis contained a 17% required reduction for copper and none for nickel with estimated annual costs of approximately \$300,000 for pollution prevention under the high cost scenario.

The differences in load reductions between BADA and EPA's analyses result from the different baselines in the two analyses. BADA uses a 99.9% probability estimate for metals and the maximum observed concentration for organics as its baseline to estimate loading reductions. EPA uses the existing NPDES permit limit or, in the absence of an existing limit, the maximum effluent concentration to estimate loading reductions which are then considered when assigning costs to reach the necessary load reductions.

BADA's analysis assumed pollution prevention costs for reductions of up to 10%, whereas EPA considered pollution prevention an option for reductions of up to 25%. EPA believes that a 25% loading reduction is a more realistic cap for pollution prevention efforts than 10%. EPA's analysis assumes that facilities will try to meet CTR-based limits using the least cost option and, for loading reductions between 10% and 25%, EPA believes that pollution prevention or process optimization are the more likely options over end-of-pipe treatment.

EPA did not assign costs mechanically based on unrealistic guidelines and statistical procedures to predict worst-case effluent quality as a means for determining compliance as was done in the BADA analysis. EPA's cost decision matrix allows for the consideration of the available monitoring and permit data in the context of detection limits, facility processes, and potential irregularities in plant operations which might result in abnormally high data. EPA believes that its methodology is more appropriate for assessing data and estimating costs than that used by BADA.

See also response to CTR-040-039.

Comment ID: CTR-052-009

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01i Alternative Cost Analysis

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

Comment: IMPACTS ON THE AUTHORITY AND ITS MEMBER AGENCIES

Attainability Analysis. The Attainability analysis performed by Larry Walker Associates and Authority staff concludes that the Authority will not be able to comply with effluent limitations for copper, heptachlor, Dibenzo(a,h)Anthracene, and possibly Benzo(a)Anthracene. The following table summarizes compliance issues and solutions.

Pollutant	% Removal Required	Remedy -----	-----
----- Copper	8-9	Pollution Prevention	Heptachlor
88	Carbon Adsorption	Dibenzo(a,h)Anthracene	30 Carbon Adsorption

In addition, it is unknown whether future compliance issues would arise for numerous pollutants where the current Method Detection Limits (MDL) are above the anticipated effluent limitations. As noted previously, EPA's assumption that non-detect data equals compliance, and therefore, no costs is not justified. Only POTWs with the most resources have real data on many pesticides and PAHS. Smaller facilities tend to have nothing but non-detect data. Since the Authority and other BADA agencies have detected these pollutants, it is reasonable to assume that other agencies would if they used lower detection limits. Therefore, it is logical to assume that once technology provides lower detection limits, other compliance issues will arise.

Response to: CTR-052-009

See responses to CTR-003-011 and CTR-004-002.

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Comment ID: CTR-059-027

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01i Alternative Cost Analysis

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES E-01g08

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Comment: Attainability Analysis

Based on our review of the CTR, at least seven of the Sanitation Districts' Water Reclamation Plants (WRPS) would be affected by the proposed rule. They include the Pomona WRP (15 MGD(\*1)), the Whittier Narrows (15 WRP), the San Jose Creek WRP (100 MGD), the Los Coyotes WRP (37.5 MGD), the Long Beach WRP (25 MGD), the Saugus WRP (6.5 MGD) and the Valencia WRP (12.6 MGD). The seven WRPs treat mainly residential and commercial waste, with less than 10% of the influent coming from industrial sources. On an annual basis, over 38% of the reclaimed water is reused for applications including groundwater recharge, landscape irrigation and industrial uses. The remainder is discharged to inland surface waters that are effluent dependent water bodies. The existing and potential designated uses of the receiving waters are diverse and include groundwater recharge, water recreation, warm fresh water habitat, wildlife habitat; commercial and sport fishing; wildlife habitat; rare, threatened or endangered species; and spawning, reproduction, and early development.

A preliminary review of historical monitoring data has shown that plant effluent concentrations of mercury, lindane and four trihalomethanes (bromoform, chlorodibromomethane, chloroform and dichlorobromomethane) frequently exceed the proposed CTR criteria at each of the seven plants. Further evaluations were conducted to determine if loading reductions could be achieved through source control or pollution prevention options and/or treatment.

Source Control and Pollution Prevention Options

The Sanitation Districts' industrial waste pretreatment program was established to ensure that all treatment facilities are able to comply with waste discharge requirements; to protect the public and the environment; and to protect personnel and facilities from potentially harmful industrial wastes. To achieve these objectives, a systemwide pretreatment program was created in 1972. The program presently regulates an extensive and varied industrial base consisting of 3,300 industries, of which 1,335 are Significant Industrial Users (SIUs).

For the CTR constituents of concern, our review has shown that there is very little potential for achieving additional reductions in pollutant loadings through source control or pollution prevention. In the case of mercury, we estimate that only 4% of the influent mercury loadings are from industrial sources. Thus, reductions of the mercury industrial contribution to meet the proposed CTR criteria would be ineffective. The same is true for other POTWs in California. For example, a 1997 study(\*2) conducted for the City of Palo Alto demonstrated that the primary sources of mercury to the Palo Alto Regional Water Quality Control Plant were from residents (46%), the water supply (22%), dentists (9%), permitted industries (4%), storm water inflow (3%), employee-related human waste (30%), Stanford University (30%) and other sources (1%). None of the regulated dischargers in the Palo Alto service area used mercury in any manufacturing process. In addition, a study conducted for the Central Contra Costa Sanitary District, which serves an estimated population of 236,200, showed that over 11 pounds per year of mercury were discharged by residential sources including human waste, laundry greywater, thermometers, contact lens solution, household products and food waste. Since residential contributions of mercury are so significant, there are very limited options for control other than educational outreach programs and/or implementation of best management practices, which may have limited effectiveness yet can be costly to develop and implement.

In the case of lindane, pollution prevention is also not feasible. The primary sources of lindane can be traced to consumer products such as flea shampoos for pets and human lice shampoo. Traditional methods of source control such as permitting or the application of best management practices would not be practical or effective. The only viable source control alternative would be a ban on consumer products that use lindane as an active agent. This approach would require the cooperation of federal and state agencies, and the manufacturers of the commercial products. Since these products have a legitimate use for public health protection, some substitute product would need to be provided. Presumably, EPA would need to determine if replacements for lindane were more or less environmentally friendly in terms of overall water quality protection,

Trihalomethanes (THMs) are another example of where source control is not a feasible option. Current maximum contaminant levels allow for chloroform, bromoform, chlorodibromomethane and dichlorobromomethane concentrations up to 100 ug/L in drinking water that is used upstream and discharged to POTWs. The average concentration of THMs in the influent to the Sanitation Districts' water reclamation plants ranges from 2 ug/L to 10 mg/L, well below the drinking water standard, yet above the proposed CTR criteria. We believe that the drinking water supply accounts for almost the entire loading. Since local water supplies are in compliance with drinking water standards, no further source control options are viable.

Based on this assessment, it is apparent that EPA drastically underestimated the costs of the CTR by assuming that in many cases compliance could be achieved through source reduction or pollution prevention. EPA's assertion that 10 to 25 percent reductions in current discharge levels is "insignificant," and would be fully addressed by low-cost waste reduction strategies clearly does not take into consideration the fact that much of the priority pollutant loading to POTWs comes from residential and commercial sources rather than industrial sources.(\*4) The former are considerably more diverse and

numerous, and not easily controlled.

Since it is unlikely that source control or pollution prevention measures by themselves will ensure compliance with the CTR, advanced treatment at the Sanitation Districts' seven WRPs would be required. Our preliminary evaluation of viable treatment options indicates that reverse osmosis (RO) would be needed to remove the constituents of concern. Although other forms of advanced treatment such as air stripping and/or carbon adsorption could be used to reduce lindane and trihalomethane concentrations in the treated wastewater to acceptable levels, they would be ineffective for treating mercury. Thus, RO was selected based on its ability to effectively treat mercury, lindane and the trihalomethanes.

The preliminary cost estimate for providing RO treatment at each of the seven WRPs is significant. For example, just the estimated capital investment (including construction, engineering and administrative costs) alone exceeds \$470 million collectively for the seven plants.(\*5) When amortized over 10 years at a 7% interest rate, the capital investment is approximately \$68 million per year. After including the estimated annual operation and maintenance costs of approximately \$79 million, the total annualized cost for RO treatment at the seven WRPs is approximately \$148 million. To put this estimated cost into perspective, the addition of RO treatment would double the single family home service charge rate for the Sanitation Districts' Joint Outfall System (JOS) service area and triple the service charge rate for the Santa Clarita Valley Joint Sewerage System (SCVJSS) service area.(\*6)

Further investigation into the amount of wastewater requiring treatment at each facility and the optimal combination of treatment will be performed in an effort to fine tune the cost estimates. It is likely that if RO treatment is added, only a portion of each plant's wastewater flow would be treated and subsequently blended with non-RO treated wastewater to meet the proposed limits. It is also possible that the optimum advanced treatment system may include carbon adsorption, air stripping and RO. For the two WRPs in the SCVJSS, additional costs will be incurred for providing facilities for brine disposal associated with the RO treatment process. Preliminary cost estimates indicate that the capital costs for a brine line would be \$45 million, corresponding to an amortized cost of \$6.4 million per year over 10 years at a 7% interest rate. Further work is needed to refine these and the other estimates. Although the cost estimates presented are somewhat preliminary, they are believed to accurately represent the order of magnitude of cost for the Sanitation Districts to achieve attainment with the proposed CTR criteria.

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(\*1) Design capacities are indicated for each plant.

(\*2) EIP Associates. Mercury Source Identification. August 1997.

(\*3) Larry Walker Associates. Residential Metals Study. May 1994.

(\*4) U.S. General Accounting Office, "Water Pollution: Nonindustrial Wastewater Pollution Can Be Better Managed" (GAO/RCED-92-40, December 1991), Ch. 2. Treatment Options and Costs

(\*5) The RO costs estimates (including capital and operation and maintenance) are based on information obtained from Orange County's Water Factory 21 facility and the 1982 Orange and Los Angeles Counties Water Reuse Study Facilities Plan.

(\*6) The treatment figures represent the total population and number of businesses actually served by the seven WRPs. However, it should be noted that the plants service separate treatment systems. Five of the WRPs are part of the Joint Outfall System (JOS), which serves a total of 5 million people and over 3,300 permitted industries. Because the rates for these plants are calculated based on the costs for the entire

system, which includes the Joint Water Pollution Control Plant, increases in rates due to installation of new treatment systems would be borne by all users of the JOS. This would, of course, result in lower costs on a sewage unit basis (i.e., per household), although far more people would experience rate increases. The remaining two WRPs provide treatment for the Santa Clarita area, which has a significantly lower population than the JOS. The service charge rates for this area are 57% higher than those of the JOS, so any rate increases would have a disproportionately high impact on those communities.

Response to: CTR-059-027

LACSD dismisses pollution prevention as "costly to develop and implement" in favor of reverse osmosis, a very expensive treatment technology. EPA disagrees that pollution prevention cannot be effective in reducing pollutant loadings from sources other than industrial sources. EPA compiled two documents, Overview of Pollution Prevention Approaches at POTWs and Pollution Prevention at POTWs, a Resource List (available in the record for this rulemaking), which identify successful programs to reduce mercury and lindane through public education and source controls. EPA believes that facilities will employ lower-cost alternatives such as pollution prevention before resorting to expensive additional treatment processes to achieve CTR-based limits, such as reverse osmosis. The trihalomethanes that occur in concentrations above CTR-based criteria but below drinking water standards are disinfection byproducts and may be manageable through process optimization (see response to CTR-003-013).

See responses to CTR-040-029a, CTR-056-018, CTR-004-003, CTR-045-012b, CTR-005-004, CTR-054-033, and 059-001.

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Comment ID: CTR-092-021

Comment Author: City of San Jose, California

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01i Alternative Cost Analysis

References: Letter CTR-092 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES

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Comment: Comment #5: Related Issues on Policy Assumptions

(Re: Page I-A-11 of the "Technical Support Document (Appendices)" for the "Analysis of Potential Costs Related to Implementation of the California Water Quality Toxics Rule)

The page cited above presents an Alternative Analysis for the City of San Jose with regard to the discharge quality of the San Jose/Santa Clara POTW effluent compared to that which would be permissible under the CTR for copper. The text states:

"Note that for the exception of outlying values, the average concentrations are low and within the range of the potential CTR limits."

It is precisely those outlying values which cause the San Jose/Santa Clara POTW to be in noncompliance

with its NPDES permit. It seems circular at best for EPA to take specific note of the very factors which create non-compliance with the permit and then assume them away and determine that San Jose/Santa Clara will have no cost of meeting the CTR copper criteria because our costs are really those of complying with the permit standard -- which does not except outlying values.

The cited text further states that "To achieve these reductions, the City is assumed to prefer an aggressive pollution prevention program by targeting specific industries and focusing on commercial dischargers." Note that this has already been undertaken and is insufficient, to allow compliance with expected permit limits.

Questions for EPA on Comment #5:

Q.5-1) As alluded to earlier in the comment regarding application of the analysis to San Jose, we are concerned that the assumptions incorporated in the Model #2 high end scenario understate the actual costs of meeting the CTR. Does EPA support the exclusion of outlying values in the State's calculation of compliance? How would the high end costs change were San Jose/Santa Clara to be considered in compliance, thus incremental costs would analytically accrue to the CTR?

Q.5-2) What evidence brought EPA to the conclusion that the City would "prefer an aggressive ... focusing on commercial dischargers"? How would changing that assumption affect the costs of implementing the CTR?

Response to: CTR-092-021

EPA disagrees with the commenter that the high scenario understates costs. EPA believes that the high scenario actually overstates costs because the high scenario is based on existing permit limits and not effluent data. If effluent data is actually below the existing limit, as it is for San Jose, then compliance costs may be overstated. EPA does not support the exclusion of outlying values in assessing compliance. In fact, EPA considers all data including outliers when it is estimating treatment requirements. However EPA does not include the costs for facilities to come into compliance with existing permit limits because these costs would be incurred even without the CTR. EPA estimated costs for San Jose to move from compliance with existing permit limits to the CTR-based limits, thus the high scenario cost estimate for San Jose would not change if San Jose were considered in compliance.

EPA's revised cost analysis for San Jose no longer mentions an "aggressive pollution prevention program." Under the revised cost analysis, the required reductions are low (17% for copper, 0% for silver, and 2% for chloroform). Thus, EPA assigned pollution prevention for the metals and process optimization for chloroform to ensure compliance with CTR-based limits. EPA's revised cost estimates for San Jose are \$296,000 under the high scenario and \$57,000 under the low scenario.

See also response to CTR-092-019.

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Subject Matter Code: E-01j

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Comment ID: CTR-069-002b

Comment Author: CA Bus Prop Ass & Bldg Ind Ass

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01j

References:

Attachments? N

CROSS REFERENCES J-01

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Comment: Additionally, CBIA and CBPA are concerned with the findings in the "Economic Analysis of the Proposed California Water Quality Toxics Rule." The acknowledgment by EPA in the economic analysis that "the water quality criteria in this rule may also have an indirect effect on sources not permitted under the NPDES program or not subject to numeric water quality-based effluent Emissions is extremely troublesome. Sources not permitted under the NPDES program include nonpoint sources and wet weather discharges such as runoff from farms and urban areas. The economic analysis continues by stating that "any potential effect on these sources is unknown at this time" and that "the State may ask or require these sources to implement best management practices or participate in a comprehensive watershed management approach. Since the economic analysis only focuses on the costs to point source dischargers and not non-point discharges, CBIA and CBPA believe that the potential economic impact of the proposed rule is greater than identified in the economic analysis.

We thank you for your consideration of these comments.

Response to: CTR-069-002b

See response to CTR-021-006b.

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Subject Matter Code: E-011 UMRA - Economic Comments

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Comment ID: CTR-059-024

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-011 UMRA - Economic Comments

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES E-01g08

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Comment: Economic Analysis

The Sanitation Districts commends EPA for preparing an analysis of the economic impacts of the proposed CTR, and for selecting POTWs for half of the case studies. We believe that EPA is correct in thinking that POTWs are likely to experience major impacts as a result of the promulgation of the CTR. However, we believe that this analysis is based on improper assumptions and inaccurate cost estimates, resulting in unconvincing conclusions. Our own attainability and cost analysis indicates that there are indeed fundamental flaws in the cost analysis. A few of the areas of concern are listed below:

\* The Economic Analysis presents a very weak analysis of potential benefits, which is based on limited information about ambient water quality conditions. Due to this weakness, combined with the paucity of information in the literature regarding the benefits from marginal improvements in water quality, the benefits analysis does a poor job of evaluating the marginal benefits that would result from the implementation of the CTR.

Response to: CTR-059-024

See response to CTR-003-010.

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Subject Matter Code: E-01m Regulatory Relief

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Comment ID: CTR-003-007  
Comment Author: City of Riverside  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: E-01m Regulatory Relief  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: 7) The economic analysis assumes that where the proposed criteria cannot be economically met, the EPA or State will take some action such as setting new criteria which will result in no cost to the discharger. This is totally inappropriate. First there is no assurance that relief can or will be given. At a minimum, studies will have to be performed to support a proposed action. The cost of such studies can and historically have been significant, ranging from hundreds of thousands to millions of dollars per study. These costs are borne by the effected communities not the EPA or State. Most importantly, the EPAs position that once promulgated, they do not have the resources to modify this rule in a timely manner, is in contradiction to this assumption.

Response to: CTR-003-007

See responses to CTR-032-004 and CTR-060-019.

Note also that, because there is no assurance that specific dischargers will receive regulatory relief, EPA estimated potential compliance costs under the assumption that none of the facilities with significant costs would be allowed alternative regulatory approaches (i.e., the high scenario).

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Comment ID: CTR-032-001  
Comment Author: Las Gallinas Val. Sanitry Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01m Regulatory Relief  
References: Letter CTR-032 incorporates by reference letter CTR-035  
Attachments? N

**CROSS REFERENCES**

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Comment: Las Gallinas Valley Sanitary District (District) submits the following comments on the proposed California Toxics Rule. The District owns and operates a 2.9 mgd advanced secondary municipal wastewater treatment plant that discharges into northern San Francisco Bay. The San Francisco Bay Regional Water Quality Control Board (RWQCB) considers the District a shallow water discharger and does not allow dilution credit in calculating effluent limits. As such, the District faces considerable difficulties in complying with end-of-the-pipe limits for copper, mercury and potentially

several toxic organics that have proposed objectives lower than the currently available analytical detection limits.

The District has had in place for several years, comprehensive source control, pollution prevention and waste minimization programs similar to those of much larger dischargers. While we continue to look for ways to improve our programs, we believe that we have passed the point of diminishing returns and that there is not a significant potential for additional pollutant removal via these mechanisms. The vast majority of copper loading, as in the case of most Bay area shallow water dischargers, is from the potable water supply and corrosion of residential copper plumbing. Plant optimization is being investigated but to date also does not appear to promise more than marginal increases in particulate copper removal, at moderate to significant costs.

Therefore, contrary to the conclusions of the CTR economic analysis, we do not believe that implementation of additional pollution prevention measures and/or plant optimization are viable mechanisms for the District to achieve current or proposed CTR criteria. Regulatory relief, as we have requested during our NPDES permit renewal process, is required.

Response to: CTR-032-001

The Las Gallinas Valley Sanitary District (District) did not provide enough information for EPA to analyze whether pollution control measures and/or process optimization would be viable mechanisms for compliance with CTR-based limits. In particular, the facility would need to provide facility engineering data and existing permit limit information and effluent data for copper and mercury. Such specific data are required to determine how the economic analysis assumptions and methodology (e.g., cost decision matrix) would apply to this particular facility. Despite this, review of the comment letter suggests that the District presently is not in compliance with existing effluent limits for copper and mercury and that regulatory relief already has been requested for these constituents. Information submitted by the Novato Sanitary District, another wastewater treatment plant discharging to northern San Francisco Bay and classified as a shallow water discharger, indicates that the present effluent limits for copper and mercury are 2.9 ug/L and 0.03 ug/L. As indicated in the response to CTR-005-001, these limits are likely to be more stringent than permit limits calculated using CTR criteria and EPA's methodology (e.g., which uses dissolved criteria and metals translators). Although the information submitted by the District is not sufficient to fully evaluate their comments, EPA believes that it is likely that the CTR would not result in insignificant costs because existing discharge limits seem to be more stringent than CTR-based limits. Nonetheless, the decision to grant regulatory relief is not a federal responsibility, but a place-based decision that must rest solely in the hands of the local community, elected officials, and other stakeholders that use the water resource affected by such decisions.

See also response to CTR-004-003.

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Comment ID: CTR-032-004

Comment Author: Las Gallinas Val. Sanitary Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01m Regulatory Relief

References: Letter CTR-032 incorporates by reference letter CTR-035

Attachments? N

## CROSS REFERENCES

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Comment: The use of the \$200 and \$500 per toxic-pound equivalent of pollutant removed cost thresholds significantly skewed potential costs downward by assuming that when those cost thresholds are reached, regulatory relief options would be pursued successfully. The CTR should include an evaluation of costs assuming regulatory relief is not made available. While the District supports the various regulatory relief options referenced, such as site specific objectives and watershed based phased TMDLs, dischargers have absolutely no guarantees that such regulatory relief will indeed be provided. Furthermore, regulatory relief conveys a negative connotation to these actions; most are more accurately viewed as "sound science", actions that should be taken anyway in pursuit of more technically defensible objectives and limits that will fully protect water quality.

Response to: CTR-032-004

As described in the EA that accompanied the proposed CTR (SAIC and Jones and Stokes Associates, 1997), EPA assumed that regulatory alternatives such as phased total maximum daily loads/water quality assessments, site-specific criteria modifications, standards variances, metals translators, etc., are considered under certain circumstances. Specifically, under the low-end scenario, regulatory alternatives were assumed necessary if the cost for a sample facility exceeded \$200 per toxic pounds-equivalent (in practice, regulatory relief mechanisms are available even when costs are below \$200 per toxic pounds-equivalent).

EPA assumes that a facility, when faced with the challenge of meeting water quality-based effluent limitations (WQBELs) based on CTR criteria, will select the most cost-effective controls, including regulatory alternatives. In fact, this has been the case in California, where several major POTWs have performed studies in pursuit of regulatory alternatives such as metals translators and site-specific criteria, rather than install costly controls to comply with WQBELs. EPA acknowledges that the actual cost-effectiveness value will vary by facility depending upon many factors, including the characteristics and volume of discharge, the receiving water, etc. However, EPA disagrees that the cost trigger is unrealistic, as these avenues of regulatory relief do exist and are employed to implement the water quality standards program.

Nonetheless, in the high-end estimate developed for the cost analysis accompanying the final CTR, no cost trigger was used and, thus, EPA's high-end cost estimate did not include the use of a regulatory alternative for any sample facility.

Reference: SAIC and Jones and Stokes Associates, Inc. 1997. Analysis of Potential Costs Related to the Implementation of the California Toxics Rule. Prepared for U.S. EPA, Office of Science and Technology and U.S. EPA Region IX, May 5.

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Comment ID: CTR-035-008d

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01m Regulatory Relief

References:

Attachments? N

CROSS REFERENCES E-01g08

E-01e

E-01d

E-01h

E-01c

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Comment: Finally, we have serious concerns about the accuracy of the draft Economic Analysis and the estimates of the costs and benefits of the draft CTR (see detailed comments in Attachments I and 2). Our primary concerns related to the cost analysis include 1) that the case studies on which the cost analysis is based do not adequately represent the actual population of POTWs in California; 2) the omission of costs that could be incurred by many sectors that contribute to overall loadings, and, hence, can be expected to have to reduce their loadings (e.g., non-SIU indirect dischargers, municipal and industrial stormwater dischargers, agricultural activities, and other nonpoint sources of CTR-regulated pollutants); 3) the use of numerous assumptions that underestimate costs; and 4) the capricious removal of costs that exceed threshold values by assuming that regulatory relief measures will be granted, despite the lack of any proposed regulatory relief trigger in the proposed regulation.

To illustrate the degree of underestimation of costs for the POTW sector alone, we looked at potential compliance costs for the POTW sector. We found that the potential costs for 23 major POTWS, on an annualized basis, may reach \$400 million. We believe that this analysis demonstrates that the potential cost consequences of compliance with effluent limits based on the proposed CTR criteria would easily exceed the \$ 100 million annual cost threshold, especially when the costs of all 313 POTWs in the State are estimated. Thus, we believe that EPA must conclude that the proposed CTR could have significant economic impacts on local governments.

Response to: CTR-035-008d

See responses to CTR-021-005c, CTR-032-004, CTR-040-039, CTR-021-006b, CTR-040-037, and CTR-059-018.

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Comment ID: CTR-035-047b

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01m Regulatory Relief

References:

Attachments? N

CROSS REFERENCES E-01b

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Comment: pp. 2-24 - 2-32 (U.S. EPA, 1997b) - Cost Triggers for Alternative Regulatory Approaches The use of the \$200 and \$500 cost thresholds significantly skewed potential costs downwards by assuming that when those cost thresholds are reached, regulatory relief options would be pursued successfully, despite the fact that dischargers have absolutely no guarantees that such options will be successful, In the Preamble, in fact, EPA indicates that options such as variances and site-specific criteria will rarely, if

ever, be granted. In addition, POTW experiences to date in California suggest that it is unlikely that such options will be successful. Thus, the basic premise of the analytic approach used to determine costs needs to be reconsidered. Incidentally, we also believe that the costs attributed to such activities were seriously underestimated. Information we are familiar with suggests that many of the regulatory alternatives EPA examined can cost up to several million dollars (per pollutant) (e.g. TMDLs, UAAs). Thus, we suggest that in the future when calculating the costs for such activities, EPA should use a range where \$200,000/pollutant is the low end scenario and \$2,000,000/pollutant is the high end scenario.

Response to: CTR-035-047b

See responses to CTR-032-004 and CTR-060-019.

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Comment ID: CTR-038-004c

Comment Author: Sonoma County Water Agency

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01m Regulatory Relief

References:

Attachments? Y

CROSS REFERENCES E-01g08

E-01h

E-01c02

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Comment: 4. The economic analysis is seriously flawed. The major flaws include: (1) failing to do an appropriate sampling of dischargers having little or no dilution; (2) assuming in the high-end cost scenario that a 25% reduction could be achieved through source control and an additional 25% achieved through treatment plant optimization without capital improvements; (3) constraining estimates of potential costs through key assumptions, including the assumption that regulatory relief from the rule would be granted if costs were in excess of certain thresholds; and (4) exaggerating estimates of potential benefits by assuming an end (i.e., achievement of the proposed water quality criteria) that will not result from the rule. The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated. The District's analysis demonstrates that actual costs may be an order of magnitude greater than EPA's \$500/lb threshold and that the benefits are very small.

Response to: CTR-038-004c

See responses to CTR-054-013a, CTR-032-004, CTR-021-008, CTR-040-029a, and CTR-056-018.

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Comment ID: CTR-040-008b

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01m Regulatory Relief

References: Letter CTR-040 incorporates by reference letter CTR-027  
Attachments? Y  
CROSS REFERENCES E-01c02  
E-02c

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Comment: MAJOR CONCERNS

We do, however, have fundamental concerns with the Rule as it is presently proposed and its supporting economic analysis. We believe the Rule can be modified in a manner that will be responsive to our concerns while at the same time being consistent with applicable Federal law and regulations. Our major concerns are presented here and are followed by our recommended modifications.

II. Concern: The economic analysis upon which the Rule is based is seriously flawed.

- \* Estimates of potential costs are severely constrained due to certain assumptions including the assumption that regulatory relief from the Rule will be granted if costs are in excess of certain thresholds.
- \* Estimates of potential benefits are exaggerated by assuming, that the proposed water quality criteria will actually be achieved in receiving water bodies. This will not result from the implementation of the Rule because the Rule is only addressing permitted discharges to the receiving water bodies.
- \* The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated.

Response to: CTR-040-008b

See responses to CTR-054-013a, CTR-032-004, and CTR-056-018.

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Comment ID: CTR-040-031  
Comment Author: County of Sacramento Water Div  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01m Regulatory Relief  
References: Letter CTR-040 incorporates by reference letter CTR-027  
Attachments? Y  
CROSS REFERENCES

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

- \* It is not conservative to assume that permit authorities will accept metals translators when there is no history of such acceptance in California.

Response to: CTR-040-031

EPA disagrees. The State has used metals translators in the Santa Ana River in a case in which it

adopted site-specific dissolved criteria for metals. Since the CTR would establish dissolved metals criteria on a statewide basis, EPA expects that the State will accept appropriate translator studies to convert from dissolved criteria to total recoverable permit limits. The State indicated that it would accept the use of defensible translator studies in its Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (September 11, 1997, p. 10).

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Comment ID: CTR-040-036

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01m Regulatory Relief

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: EPA's assumption that dischargers would pursue source control, treatment plant optimization, and regulatory relief prior to constructing end-of-pipe facilities conflicts with the 5-year maximum compliance schedule allowed by the CTR. In most cases (e.g., in the Merced POTW case study) it would take 5 years to plan, design, obtain approvals, arrange financing, and construct end-of-pipe facilities. A discharger could not pursue such non-structural controls and still be assured to meeting a 5-year compliance schedule.

Response to: CTR-040-036

EPA's compliance schedule in the final rule would allow the State flexibility in establishing compliance schedules for dischargers. EPA amended the final CTR to include a provision whereupon the compliance schedule provision will sunset in five years or when the State adopts its own compliance schedule provision in the State Implementation Policy and, if EPA approves the schedule, EPA will then act to stay the EPA compliance schedule provision for the CTR. This change to the CTR will give the State discretion to develop an appropriate compliance schedule policy for California.

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Comment ID: CTR-040-041

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01m Regulatory Relief

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: Many of the types of regulatory relief identified as possible in the analysis (and in the Preamble to the CTR) do not really constitute relief and/or are not available to dischargers under the

CTR (see Attachment B-1).

Response to: CTR-040-041

See response to CTR-032-004.

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Comment ID: CTR-041-010b

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01m Regulatory Relief

References:

Attachments? N

CROSS REFERENCES E-01n

E-01e

E-01g

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#### Comment: 5. Concerns Regarding Economic Analysis

The District also has several significant concerns with the Economic Analysis that was performed for the proposed rule. Concerns about the cost estimates made for both the District and the state are presented here. (See attached Review of EPA's Economic Analysis of the Proposed California Water Quality Toxics Rule.) Overall, the District believes that problems with the Economic Analysis are serious enough that it should be redone. As stated above in our analysis of assumed costs at the SRWTP, the use of questionable data without qualification combined with unsubstantiated assumptions regarding costs to achieve compliance resulted in a gross underestimate in the cost-effectiveness ratio. The District's first concern is that if the types of problems found in our Case Study are widespread in other studies, the complete analysis is suspect.

In addition to the analysis of the District's facilities, there are several other points which have been used by EPA to lead to a potentially serious understatement of actual costs. The key assumptions involved are that: 1) no costs would occur if either no monitoring data presently exists or if that data is below analytical detection levels; 2) no treatment costs would occur whenever EPA's initial estimates showed high costs, due to successful regulatory relief; 3) no costs are included for nonpoint sources such as municipal stormwater management systems; and 4) no costs are included for indirect dischargers to the District's system that are not large enough to be considered a Significant Industrial User (SIU).

Regarding the first assumption, the District has found that there is pressure from many sides, including the Safe Drinking Water Act, to both increase the number of constituents being monitored and to lower detection levels to meet numeric criteria set by EPA and the state. To assume that monitoring of these new constituents will not lead to any treatment cost increases is simply unrealistic. Similarly, the second assumption about absolute success in every pursuit of regulatory relief is also overly optimistic. There are no guarantees that pursuit of regulatory relief will be successful in any situation, and EPA indicates elsewhere in the preamble that options such as variances and site-specific criteria will rarely, if ever, be granted.

The third and fourth key assumptions ignore present dominating trends and facts, i.e. that. prevention and control of pollutants at their sources, including very small indirect dischargers, storm runoff, and other nonpoint sources are now the major focus of EPA's wastewater programs nationally. While we agree that these management steps should be taken, there will be significant costs attached to the implementation of these steps that cannot be ignored.

Combined with concerns the District has heard from other sources such as the California Association of Sanitation Agencies (CASA), it appears that EPA has failed to make "a reasoned determination that the benefits of the intended regulation justify its costs." Therefore the District believes that the Agency is obligated to redo the draft Economic Analysis.

Response to: CTR-041-010b

See responses to CTR-032-004, CTR-021-006b, CTR-040-037, and CTR-003-011.

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Comment ID: CTR-041-027  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01m Regulatory Relief  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that permit authorities will accept metals translators when there is no history of such acceptance in California.

Response to: CTR-041-027

See response to CTR-040-031.

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Comment ID: CTR-041-032  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01m Regulatory Relief  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: EPA's assumption that dischargers would pursue source control, treatment plant optimization, and regulatory relief prior to constructing end-of-pipe facilities conflicts with the 5-year maximum compliance schedule allowed by the CTR. In most cases (e.g., in the Merced POTW case study) it would take 5 years to plan, design, obtain approvals, arrange financing, and construct end-of-pipe facilities. A discharger could not pursue such non-structural controls and still be assured to meeting a 5-year compliance schedule.

Response to: CTR-041-032

See responses to CTR-040-036 and CTR-032-004.

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Comment ID: CTR-041-037

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01m Regulatory Relief

References:

Attachments? N

CROSS REFERENCES

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Comment: Many of the types of regulatory relief identified as possible in the analysis (and in the Preamble to the CTR) do not really constitute relief and/or are not available to dischargers under the CTR (see Attachment 3-1).

Response to: CTR-041-037

See responses to CTR-032-004 and CTR-060-019.

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Comment ID: CTR-043-004c

Comment Author: City of Vacaville

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01m Regulatory Relief

References:

Attachments? Y

CROSS REFERENCES E-01g

E-01h

E-02c

E-01c02

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Comment: 4. EPA's Economic Analysis is seriously flawed. The major flaws include:

- (1) failing to do an appropriate sampling of small dischargers having little or no dilution;
- (2) assuming in the high-end cost scenario that a 25% reduction could be achieved through source control and an additional 25% achieved through treatment plant optimization without capital improvements;
- (3) constraining estimates of potential costs through key assumptions, including the assumption that regulatory relief from the rule would be granted if costs were in excess of certain thresholds; and
- (4) exaggerating estimates of potential benefits by assuming an end (i.e., achievement of the proposed water quality criteria) that will not result from the rule.

The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated. Moreover, the flawed economic analysis has led to the erroneous conclusion that the CTR is not a "significant regulatory action" or major rule subject to Presidential Executive Order 12866 and the Unfunded Mandates Reform Act or a rule that affects small entities protected under the Regulatory Flexibility Act.

Response to: CTR-043-004c

See responses to CTR-054-013a, CTR-021-005c, CTR-032-004, CTR-021-008, CTR-040-029a, and CTR-056-018.

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Comment ID: CTR-044-005c  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01m Regulatory Relief  
References:  
Attachments? Y  
CROSS REFERENCES E-01g08  
E-01h01  
E-02c  
E-01c02  
R  
S

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Comment: We have reviewed the proposed CTR and offer the following comments:

4. EPA's Economic Analysis is seriously flawed. The major flaws include:

- (1) failing to do an appropriate sampling of small dischargers having little or no dilution; (2) assuming in the high-end cost scenario that a 25% reduction could be achieved through source control and an additional 25% achieved through treatment plant optimization without capital improvements; (3) constraining estimates of potential costs through key assumptions, including the assumption that regulatory relief from the rule would be granted if costs were in excess of certain thresholds; and (4) exaggerating estimates of potential benefits by assuming an end (i.e., achievement of the proposed water

quality criteria) that will not result from the rule. Additional concerns with the economic analysis are presented in Exhibit F. The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated. Moreover, the flawed economic analysis has led to the erroneous conclusion that the CTR is not a "significant regulatory action" or major rule subject to Presidential Executive Order 12866 and the Unfunded Mandates Reform Act or a rule that affects small entities protected under the Regulatory Flexibility Act. The City, for example, is a small community having a population of under 50,000 and would be greatly impacted by the proposed rule.

Response to: CTR-044-005c

See responses to CTR-054-013a, CTR-021-005c, CTR-032-004, CTR-021-008, CTR-040-029a, and CTR-056-018.

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Comment ID: CTR-044-022  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01m Regulatory Relief  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that permit authorities will accept metals translators when there is no history of such acceptance in California.

Response to: CTR-044-022

See response to CTR-040-031.

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Comment ID: CTR-044-027  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01m Regulatory Relief  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: EPA's assumption that dischargers would pursue source control, treatment plant optimization,

and regulatory relief prior to constructing end-of-pipe facilities conflicts with the 5-year maximum compliance schedule allowed by the CTR. In most cases (e.g., in the Merced POTW case study) it would take 5 years to plan, design, obtain approvals, arrange financing, and construct end-of-pipe facilities. A discharger could not pursue such non-structural controls and still be assured to meeting a 5-year compliance schedule.

Response to: CTR-044-027

See response to CTR-040-036.

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Comment ID: CTR-044-032  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01m Regulatory Relief  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Many of the types of regulatory relief identified as possible in the analysis (and in the Preamble to the CTR) do not really constitute relief and/or are not available to dischargers under the CTR (see Attachment 3-1).

Response to: CTR-044-032

See responses to CTR-032-004 and CTR-060-019.

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Comment ID: CTR-045-009c  
Comment Author: Sausalito-Marín Sanitary Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: E-01m Regulatory Relief  
References:  
Attachments? Y  
CROSS REFERENCES E-01g08  
E-01h

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Comment: The draft Economic Analysis has serious flaws. It underestimates the costs of the draft CTR and overestimates the benefits. For the cost analysis, EPA should reevaluate the representativeness of the sample used; the omission of impacts on many sectors that contribute to loadings, and hence, can be expected to have to reduce their loadings (e.g., small indirect dischargers, municipal and industrial stormwater dischargers, agricultural activities, and other nonpoint sources); the incorporation of

numerous assumptions that underestimate costs; and the assumption to artificially remove costs that exceed threshold values by assuming that regulatory relief measures will be granted, despite the fact that they are not automatically granted through triggers included as part of the proposed regulation.

Response to: CTR-045-009c

See responses to CTR-032-004, CTR-056-018, CTR-021-006b, and CTR-059-018.

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Comment ID: CTR-049-006c

Comment Author: Watereuse Assoc. of California

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: E-01m Regulatory Relief

References:

Attachments? N

CROSS REFERENCES E-01g08

E-01h

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Comment: With respect to other criteria proposed for adoption in the draft CTR, we recommend that USEPA:

4. Review and correct existing flaws in the current "Economic Analysis."

With respect to the Economic Analysis conducted by USEPA, we are concerned that it underestimates the cost of the proposed CTR rule while overestimating its benefits. We suggest that USEPA re-evaluate (1) the representativeness of the sample used; (2) the omission of impacts on many sectors that contribute to loadings; (3) the incorporation of a variety of assumptions that underestimate costs; and (4) the assumption to artificially remove costs that exceed threshold values by incorrectly assuming that regulatory relief measures will be granted. For the benefits analysis, USEPA should utilize more California-specific and recent information. A further problem with the analysis relates to the establishment of criteria that are below analytical detection. Lacking credible data, it was not possible to conduct cost-benefit analyses or determine that any set of control measures would or could lead to compliance. This fundamental inability to utilize established rulemaking procedures requires, in our opinion, further work prior to the promulgation of the criteria.

Response to: CTR-049-006c

See responses CTR- 045-011, CTR-032-004, CTR-056-018, CTR-021-006b, CTR-059-018, and CTR-052-014.

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Comment ID: CTR-054-013c

Comment Author: Bay Area Dischargers Assoc.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97  
Subject Matter Code: E-01m Regulatory Relief  
References:  
Attachments? Y  
CROSS REFERENCES E-01g03  
E-01q01  
E-021

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Comment: The economic analysis is seriously flawed. The major flaws include: (1) failing to do an appropriate sampling of dischargers; (2) assuming in the high-end cost scenario that a 25% reduction could be achieved through source control and an additional 25% achieved through treatment plant optimization without capital improvements; (3) constraining estimates of potential costs through key assumptions, including the assumption that regulatory relief from the rule would be granted if costs were in excess of certain thresholds; and (4) exaggerating estimates of potential benefits by assuming an end (i.e., achievement of the proposed water quality criteria) that will not result from the rule (see Attachment 3). The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated. BADA's analysis shows that its member agencies alone could be faced with costs in excess of \$100 million per year to achieve effluent limits based on the copper, PAH, heptachlor and aldrin criteria. BADA's analysis also indicates that the benefits associated with this expenditure will be difficult to measure. Copper loadings will be reduced by 1% and the level of compliance for PAH's and heptachlor will remain unchanged at its present high level. Certainly these benefits will not measurably improve the fishing experience or measure the number of fisherman in the Bay, significantly reduce the cancer cases, or improve property values or other nonuse benefits, as estimated in EPA's economic analysis. A further consequence of the flawed economic analysis is the conclusion that the CTR is not a major rule (i.e., one which will result in excess of \$100 million per year expenditure) subject to Presidential Executive order 12866 and the Unfunded Mandates Reform Act or a rule that affects small entities protected under the Regulatory Reform Act. BADA agencies provide service to a number of small communities with populations under 50,000 people that could be greatly impacted by the proposed rule.

Response to: CTR-054-013c

See responses to CTR-054-013a, CTR-021-005c, CTR-032-004, CTR-021-008, CTR-040-029a, CTR-056-018, and CTR-059-018.

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Comment ID: CTR-054-026  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01m Regulatory Relief  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that permit authorities will accept metals translators when there is no history of such acceptance in California.

Response to: CTR-054-026

See response to CTR-040-031.

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Comment ID: CTR-054-031  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01m Regulatory Relief  
References:

Attachments? N

**CROSS REFERENCES**

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Comment: EPA's assumption that dischargers would pursue source control, treatment plant optimization, and regulatory relief prior to constructing end-of-pipe facilities conflicts with the 5-year maximum compliance schedule allowed by the CTR. In most cases (e.g., in the Merced POTW case study) it would take 5 years to plan, design, obtain approvals, arrange financing, and construct end-of-pipe facilities. A discharger could not pursue such non-structural controls and still be assured to meeting a 5-year compliance schedule.

Response to: CTR-054-031

See response to CTR-040-036.

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Comment ID: CTR-054-036  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01m Regulatory Relief  
References:

Attachments? N

**CROSS REFERENCES**

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Comment: Many of the types of regulatory relief identified as possible in the analysis (and in the Preamble to the CTR) do not really constitute relief and/or are not available to dischargers under the CTR (see Attachment 3-1).

Response to: CTR-054-036

See response to CTR-032-004.

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Comment ID: CTR-086-006

Comment Author: EOA, Inc.

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org: California Dent

Document Date: 09/26/97

Subject Matter Code: E-01m Regulatory Relief

References: Letter CTR-086 incorporates by reference letter CTR-035

Attachments? N

#### CROSS REFERENCES

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Comment: The use of the \$200 and \$500 per toxic pound-equivalent cost thresholds significantly skewed potential costs downward by assuming that when those cost thresholds are reached regulatory relief options would be pursued successfully. The CTR should include an evaluation of costs assuming regulatory relief is not made available. While CDA supports the various regulatory relief options referenced, such as site specific objectives and watershed based phased TMDLS, dischargers, and by inference indirect dischargers, have absolutely no guarantees that such regulatory relief will indeed be provided. Furthermore, regulatory relief conveys a negative connotation to these actions; most are more accurately viewed as "sound science", actions that should be taken anyway in pursuit of more technically defensible objectives and limits that will fully protect water quality.

Response to: CTR-086-006

See response to CTR-032-004.

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Subject Matter Code: E-01m02 Success in Reg. Relief

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Comment ID: CTR-090-003

Comment Author: C&C of SF, Public Utl. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01m02 Success in Reg. Relief

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

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Comment: Major Concerns About the Proposed Criteria and Rule

1. The Proposal is Based on Poor Data and Will Not Result in Better Water Quality for California. We stated that our own attainability analysis and that of BADA show that San Francisco,) will be impacted by this rule. Unfortunately, due to the short time for review, the poor quality of data and basis for statements and assumptions in the proposal and the problem with detection limits we cannot specifically say what will be the cost to Sari Francisco. One analysis tell us it could be \$2.3 million per year annualized costs and another analysis tells us it could be much more. We strongly recommend major revision to the proposal and the economic analysis before final promulgation for the following reasons:

\* The costs section of the economic analysis is extremely flawed; if this rule is adopted and the State Implementation Policy does not allow for regulatory relief the cost of compliance to point sources dischargers will be orders of magnitude more than the amount stated in the proposed rule.

Response to: CTR-090-003

See responses to CTR-032-004 and CTR-056-018.

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Subject Matter Code: E-01m03 Cost of WERs

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Comment ID: CTR-060-019  
Comment Author: San Diego Gas and Electric  
Document Type: Electric Utility  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01m03 Cost of WERs  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: PROVISIONS SDG&E DOES NOT SUPPORT

As described in the following comments SDG&E does not support the following provisions:

Economic Analysis is deficient

Additionally, the metals criteria are expressed as the dissolved concentration of the metal and have been derived from toxicity tests conducted in laboratory water that is relatively pure. Many bays and estuaries, especially back bays and estuaries contain significant concentrations of suspended organic matter. Ambient levels of organic matter can bind much of the bioavailable portion of the metal and reduce the overall toxicity due to the metal. To account for this effect, the rule allows for the use of water effects ratios (WERs) (in addition to translators) in calculating water quality based effluent limits. This may be a viable option for some dischargers to achieve compliance with the proposed criteria. However, the cost to establish a WER could be significant. EPRI(\*16) has estimated that the typical costs for a basic WER study for an acute metal criterion could range from \$20,000 to \$50,000. To develop a WER for a chronic criterion or to address spatial or seasonal variability can substantially increase the costs. It is not clear whether the economic analysis reflects the cost to the regulated community of having to develop WERs that will effectively increase the water quality based effluent limits. This cost should be added into the economic analysis.

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(\*16) Implementation Manual for the Water-Effect Ratio (WER)", EPRI Report No. TR-107144, November, 1996, page 3-5.

Response to: CTR-060-019

Based upon estimates provided in SAIC (1995), the Assessment of Compliance Costs Resulting from Implementation of the Final Great Lakes Water Quality Guidance, the typical cost to facilities pursuing alternative regulatory approaches to CTR-based WQBELs is \$200,000 per pollutant. The \$200,000 per pollutant cost represents the mid-range of costs for a number of alternative regulatory approaches and was used for the economic analysis of the CTR. EPA Regional Offices and States estimate that alternative approaches range from \$20,000 for criteria modifications to \$1,000,000 per pollutant for phased-TMDLs. These costs reflect costs associated with additional monitoring, performing special studies, and other activities, to support requests from facilities for relief from the CTR-based WQBEL. EPA estimates that the cost of calculating water-effects ratio (WER) is comparable to this typical cost.

Reference: SAIC. 1995. Assessment of Compliance Costs Resulting from Implementation of the Final Great Lakes Water Quality Guidance. Prepared for U.S. EPA, Office of Science and Technology, March 13.

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Subject Matter Code: E-01n Detection Limits

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Comment ID: CTR-003-008  
Comment Author: City of Riverside  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: E-01n Detection Limits  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: 8) USEPA has assumed in both its low and high end cost scenario that if monitoring data for potential chemical constituents were reported as below detection limits then there would be no cost of compliance for these constituents. The City of Riverside has 35 constituents from the list of proposed criteria, applicable to its receiving water use designations, whose limits and effluent concentrations are below analytical detection levels in our matrix. The potential cost for the City to remove even one of these constituents, should it be detected as technology improves, could exceed the projected costs of this rule for the entire state. Given that this is the case for most if not all POTWs in the State, it does not seem appropriate to implement standards for which the ability to comply is not and cannot be known. The constituents of concern at our plant are: cadmium, chromium (VI), copper, lead, mercury, selenium, silver, thallium, asbestos, dioxin, acrylonitrile, benzidine, benzo(a) anthracene, benzo(a) pyrene, benzo(b) fluoranthene, benzo (k) fluorethene, chrysene, dibenzo (a,h) anthracene, (3,3) dichlorobenzidine, 1,2-diphenylhydrazine, hexachlorobenzene, indeno (1,2,3-cd) pyrene, aldrin, alpha-BHC, chlordane, 4,4'-DDT, 4,4'-DDE, 4,4'-DDD, dieldrin, endrin, heptachlor, heptachlor epoxide, PCBS, toxaphene. The compliance status of several other constituents would be in question if the human health criteria for consumption of "Water and Organisms" is used versus organisms only. Given the extremely low levels at which many of the criteria are set and unless the EPA is proposing a nation wide product ban, it is quite likely that one or more of these chemicals will show up in a POTW effluent at levels above the standards. The EPA should either remove from consideration criteria for which compliance cannot be determined or assume that it is being exceeded for the purpose of the economic analysis.

Response to: CTR-003-008

See responses to CTR-003-011 and CTR-004-002.

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Comment ID: CTR-004-002  
Comment Author: South Bayside System Authority  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: E-01n Detection Limits  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: SBSA has a comprehensive effluent monitoring program for metals and organics. Since the inception of the SBSA Pretreatment Program in 1975 and the operation of advanced treatment technology in 1982 there has been a significant reduction in influent and effluent pollutant loading. The more recent Pollution Prevention Program has also contributed to reduced pollutant loading. Even with the substantial reductions achieved in the past there will be severe attainability problems resulting specifically from the adoption of the proposed CTR criteria. Monitoring data from January 1996 through August 1997 shows noncompliance with six (6) metals; copper, lead, mercury, nickel, silver, and zinc. For samples from 1993 to the present there are nine (9) organics and twenty-two (22) pesticides that have proposed objectives below detection limits. There is no mechanism to assess the ability or cost of achieving compliance with these limits.

Response to: CTR-004-002

In recent years, many States have promulgated water quality criteria for various toxic pollutants that are more restrictive than the level of analytical detection. Implementation of these existing water quality criteria by many States do take into account the ability to detect the pollutant in the waste stream. For example, some States determine compliance with limits established below method detection limits (MDL) based on the minimum level (ML), where available. When a promulgated ML is not available, compliance with that limit may be based on the MDL or the practicable quantitation level (PQL).

To ensure that its cost estimates were conservative (i.e., erring on the side of higher costs), EPA used the MDL as the compliance level. Although EPA based compliance determination on the MDL, the Agency acknowledges that estimating treatment costs for WQBELs below the MDL is speculative and likely unrealistic.

However, EPA does believe that aggressive pollutant prevention/waste minimization practices, combined with conventional end-of-pipe treatment, can effectively reduce all detectable amounts of particular pollutants of concern from the discharge, resulting in compliance with WQBELs below detection levels. EPA agrees that some facilities will want to ensure compliance with WQBELs below detection levels through the use of additional or enhanced end-of-pipe treatment. EPA believes that appropriate costs were included in the cost analysis by including costs for both pollution prevention/waste minimization techniques (such as material substitution, process modification, and/or recycling, reuse, or treatment of internal waste streams) and end-of-pipe treatment. Where the pollutant is present at detectable levels, and where the facility implements control measures directed specifically at eliminating these pollutants, the controls will likely result in reduction of the pollutant to below the level of detection. Because there is no evidence that reductions cannot reach a level in compliance with WQBELs, EPA has no reason to believe that its assumption of compliance is not reasonable. EPA compiled two documents, Overview of Pollution Prevention Approaches at POTWs and Pollution Prevention at POTWs, a Resource List (available in the record for this rulemaking), which identify successful programs to reduce mercury and lindane through public education and source controls. See also response to CTR-034-010b.

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Comment ID: CTR-021-013

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: E-01n Detection Limits

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

**CROSS REFERENCES**

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Comment: The CTR Analysis of POTW Compliance with Organics is Based on the Flawed Assumption that Analytical Detection Limits Will Not Improve and thus POTW Plants that Currently Meet the Proposed Organic Effluent because Effluent Monitoring Results are Less than the Detection Limit will Meet the Limits into the Future

A significant number of organic compounds contained in the CTR have detection limits greater than the proposed criteria. For example, endrin and pentachlorophenol are the two cited in the Sunnyvale economic analysis. A significant and potentially costly incorrect assumption of the "Analysis of Potential Costs ..." document was that if all values were reported as below the detection limit, there would be no costs attributable to implementing the CTR. This dismisses a very likely scenario, namely that analytical detection limits will improve over time and that some of these organics may then be detected in the effluent.

If this occurs, POTWs will most likely be facing installation of Granular Activated Carbon (GAC) for low level organics removal, as was recommended for the City of Merced in the CTR Economic Analysis appendix. There are no assurances that the proposed pollution prevention and waste minimization measures would be effective in reducing levels to the extent required. Reverse osmosis (RO) is not extremely effective at removing many of these organics to these low levels so even if Sunnyvale had installed RO for trace metals removal, it would still be facing use of GAC for organics compliance. This would cost approximately \$12 million/year for the 29.5 mgd Sunnyvale plant based on the over \$4 million/year estimate for the 10 mgd Merced plant.

Response to: CTR-021-013

See responses to CTR-004-003, CTR-003-011, and CTR-004-002.

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Comment ID: CTR-033-003b

Comment Author: San Bernardino Muncpl Wtr Dept

Document Type: Water District

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01n Detection Limits

References: Letter CTR-033 incorporates by reference letter CTR-020

Attachments? Y

**CROSS REFERENCES C-28**

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Comment: Experiments to determine whether a chemical is carcinogenic are performed (on animals) with high concentrations to produce statistically significant results within the time frame of the experiment. The numbers are then extrapolated to determine an estimated "safe" concentration for human populations. All of the factors in the extrapolation process use conservative assumptions (one in a million risk, bioaccumulation potential, carcinogenic potential, etc.) which builds in and multiplies safety

factors. For 39 of the constituents in the CTR, the extrapolated criteria levels are below current levels of detection.

The EPA recognizes this as the proposed rule states: "EPA is aware that the criteria proposed today for some of the priority toxic pollutants are at concentrations less than EPA's current analytical detection limits. Analytical detection limits have never been an acceptable basis for setting water quality criteria since they are not related to actual environmental impacts. The environmental impacts of a pollutant are based on a scientific determination, not a measuring technique that is subject to change. Setting the criteria at levels that reflect adequate protection tends to be a forcing mechanism to improve analytical detection methods. See 1985 Guidelines p. 21. As the methods improve, limits closer to the actual criteria necessary to protect aquatic life and human health become measurable. The Agency does not believe it is appropriate to propose or promulgate criteria that are not sufficiently protective." The rule goes on to add, "the use of detection limits are appropriate for determining compliance with National Pollutant Discharge Elimination System (NPDES) permit limits."

Since the criteria are established on high dosage results that cannot be substantiated at low levels due to statistical significance and inability to see beyond detection limits, the values are predictions. Questions that come to mind are, what would this procedure determine for fat-soluble vitamins A, D and K? In high doses, these vitamins are harmful, though in low dosages, valuable. For constituents below detection, these determinations cannot be scientifically verified by analyses, only mathematically generated based on worst case assumptions. Although caution is warranted when establishing criteria, future unforeseen levels and effects cannot be predicted.

While the EPA believes that compliance determinations are based on detection limits, to assume no cost in the economic analysis for values that are below detection is not a valid assumption. As noted above, the detection limits will be forced to lower levels, and therefore become moving compliance targets without additional economic review should detection's begin to occur.

In summary, the detection levels should serve as the criteria with a "<" designator. The criteria for the affected constituents should be reviewed on a regular basis to reflect current approved analytical techniques, with lower levels promulgated after appropriate economic evaluations.

Response to: CTR-033-003b

See responses to CTR-004-002 and CTR-005-009.

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Comment ID: CTR-038-009b  
Comment Author: Sonoma County Water Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01n Detection Limits  
References:  
Attachments? Y  
CROSS REFERENCES C-28  
R  
S

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Comment: 8. EPA should not adopt criteria for any pollutant where the method detection limit exceeds the objective and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses. The proposed rule includes criteria for a number of constituents where there is insufficient data to determine whether the discharge of such pollutants could reasonably be expected to interfere with the designated uses. EPA has chosen to promulgate criteria for these constituents even though section 303 (c)(2)(B) of the Clean Water Act requires States to adopt numeric criteria only for constituents "...the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." Clearly, this "play-it-safe" approach goes beyond the requirements of the Clean Water Act and is therefore unnecessary. By taking this approach, however, EPA is unable to fulfill its duty (under Presidential Order 12866, the Unfunded Mandates Reform Act, and the Regulatory Flexibility Act) to assess the costs, benefits, and impacts of the rule on local government and small entities. While this may be the conservative approach for EPA, it places dischargers throughout the State at risk. As analytical detection limits improve, dischargers may find they are unable to achieve the criteria without costly end-of-pipe controls. But, by then, it will be too late for EPA to evaluate the costs and benefits of the criteria and alternative criteria. For these reasons, EPA must not adopt criteria for those constituents. If EPA does adopt criteria for those constituents, EPA must evaluate the costs and benefits of the criteria, as well as alternative criteria, using worst case assumptions (i.e., assume that discharge levels and ambient levels are at the detection limits). With respect to the District's discharge and Schell Slough and Second Napa Slough, the criteria in this category include, but are not necessarily limited to, the following : benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, aldrin, 4,4'-DDD, 4,4'-DDE, dieldrin, endosulfan I, endosulfan II, endosulfan sulfate, heptachlor, heptachlor epoxide, toxaphene, PCB-1016, OCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, PCB-1260, and hexachlorobenzene (see Table 3).

Response to: CTR-038-009b

See responses to CTR-021-005c and CTR-004-002.

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Comment ID: CTR-041-008b

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01n Detection Limits

References:

Attachments? N

CROSS REFERENCES C-28

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Comment: 3. Recommend Against Adopting Criteria with Insufficient Detectable Data

The District strongly recommends that the EPA not adopt criteria where the method detection limit exceeds the objective and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses. The proposed rule includes criteria for a number of constituents where there is insufficient data to determine whether the discharge of such

pollutants could reasonably be expected to interfere with the designated uses. EPA has chosen to promulgate criteria for these constituents even though section 303 c(2)(B) of the Clean Water Act requires States to adopt numeric criteria only for constituents "...the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." EPA has chosen a "safe approach" which clearly goes beyond the Clean Water Act and is clearly unnecessary. This approach does not allow EPA to fulfill its duty (under Presidential Order 12866, the Unfunded Mandates Reform Act and the Regulatory Flexibility Act) to assess the costs, benefits, and impacts of the rule on local government and small entities. While this may be the safe approach for EPA, it places dischargers throughout the State at risk.

As analytical detection limits improve, dischargers may find they are unable to achieve the criteria without costly end-of-pipe controls. But, by then, it will be too late for EPA to evaluate the costs and benefits of the criteria and alternative criteria. For these reasons, EPA should not adopt criteria for those constituents. If EPA does adopt these criteria, EPA should, prior to that, evaluate the costs and benefits of the criteria, as well as alternative criteria, using worst case assumptions (i.e., assume that discharge and ambient levels are at the detection limits). The criteria in this category include the following: Aldrin, Alpha-BHC, Beta-BHC, Chlordane, 4,4'-DDD, 4,4'-DDT, 4,4'-DDE, Dieldrin, Endosulfan I, Endosulfan II, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, Toxaphene, PCB- 1016, PCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, PCB-1260, Hexachlorobenzene, N-Nitrosodipropylamine, Pentachlorophenol, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoroanthene, Benzo(k)fluoroanthene, Chrysene, Dibenzo(a,h)anthracene, and Indeno(1,2,3-cd)pyrene.

Response to: CTR-041-008b

See response to CTR-004-002 and CTR-005-009.

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Comment ID: CTR-041-010a  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01n Detection Limits  
References:  
Attachments? N  
CROSS REFERENCES E-01m  
E-01e  
E-01g

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Comment: 5. Concerns Regarding Economic Analysis

The District also has several significant concerns with the Economic Analysis that was performed for the proposed rule. Concerns about the cost estimates made for both the District and the state are presented here. (See attached Review of EPA's Economic Analysis of the Proposed California Water Quality Toxics Rule.) Overall, the District believes that problems with the Economic Analysis are serious enough that it should be redone. As stated above in our analysis of assumed costs at the SRWTP, the use of questionable data without qualification combined with unsubstantiated assumptions regarding costs to achieve compliance resulted in a gross underestimate in the cost-effectiveness ratio. The District's first

concern is that if the types of problems found in our Case Study are widespread in other studies, the complete analysis is suspect.

In addition to the analysis of the District's facilities, there are several other points which have been used by EPA to lead to a potentially serious understatement of actual costs. The key assumptions involved are that: 1) no costs would occur if either no monitoring data presently exists or if that data is below analytical detection levels; 2) no treatment costs would occur whenever EPA's initial estimates showed high costs, due to successful regulatory relief; 3) no costs are included for nonpoint sources such as municipal stormwater management systems; and 4) no costs are included for indirect dischargers to the District's system that are not large enough to be considered a Significant Industrial User (SIU).

Regarding the first assumption, the District has found that there is pressure from many sides, including the Safe Drinking Water Act, to both increase the number of constituents being monitored and to lower detection levels to meet numeric criteria set by EPA and the state. To assume that monitoring of these new constituents will not lead to any treatment cost increases is simply unrealistic. Similarly, the second assumption about absolute success in every pursuit of regulatory relief is also overly optimistic. There are no guarantees that pursuit of regulatory relief will be successful in any situation, and EPA indicates elsewhere in the preamble that options such as variances and site-specific criteria will rarely, if ever, be granted.

The third and fourth key assumptions ignore present dominating trends and facts, i.e. that prevention and control of pollutants at their sources, including very small indirect dischargers, storm runoff, and other nonpoint sources are now the major focus of EPA's wastewater programs nationally. While we agree that these management steps should be taken, there will be significant costs attached to the implementation of these steps that cannot be ignored.

Combined with concerns the District has heard from other sources such as the California Association of Sanitation Agencies (CASA), it appears that EPA has failed to make "a reasoned determination that the benefits of the intended regulation justify its costs." Therefore the District believes that the Agency is obligated to redo the draft Economic Analysis.

Response to: CTR-041-010a

See responses to CTR-032-004, CTR-021-006b, CTR-040-037, and CTR-003-011.

If pressure from the Safe Drinking Water Act results in increases in monitoring of constituents or lowering of detection levels, any associated costs should not be attributed to this rule but would be attributed to actions taken under drinking water regulations. To account for those costs under this rule would be double counting because a cost analysis of drinking water rules would already have accounted for those costs. From the outset of the national water quality standards program, EPA has explained that while economic factors may be considered in designating uses, scientific and technical factors must justify the criteria to meet those uses. Additionally, with regard to benefits justifying costs, Executive Order 12866 states in section 1(b) that this is limited "to the extent permitted by law and where applicable." See also response to 042-007a.

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Comment ID: CTR-045-011

Comment Author: Sausalito-Marín Sanitary Dist.

Document Type: Sewer Authority

State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: E-01n Detection Limits  
References:  
Attachments? Y

**CROSS REFERENCES**

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Comment: Several criteria are below current analytical detection. It was therefore not possible to conduct cost-benefit analyses or determine that any set of control measures would or could lead to compliance.

Response to: CTR-045-011

EPA acknowledges the limitations of detection levels for certain bioaccumulative pollutants. However, indirect dischargers to municipal treatment plants often have detectable levels of these pollutants. Similarly, within industrial plants, discharges are often detectable prior to treatment. Once detectable sources are identified, mass balance methods can be used to determine if the facility is discharging at concentrations that exceed instream water quality standards. Fish tissue concentrations can also be used as an indicator that discharges may be causing an exceedance of standards.

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Comment ID: CTR-066-015a  
Comment Author: Delta Diablo Sanitation Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01n Detection Limits  
References:  
Attachments? N  
**CROSS REFERENCES C-28**

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Comment: The areas with which we find concerns and the requested changes include the following:

A further problem with the analysis relates to the establishment of criteria that are below analytical detection. Our District finds 34 separate criteria that fall into this category. Lacking this credible data, it was not possible to conduct cost-benefit analyses or determine that any set of control measures would or could lead to compliance. This fundamental inability to utilize established rulemaking procedures mandates further work prior to the promulgation of the criteria.

Response to: CTR-066-015a

See response to CTR-045-011.

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Comment ID: CTR-067-004a  
Comment Author: Ojai Valley Sanitary District

Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01n Detection Limits  
References:  
Attachments? N  
CROSS REFERENCES K

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Comment: \* In addition, EPA cannot make an accurate determination of the costs and benefits of promulgating CTR criteria for those criteria that are below achievable detection limits. Because detection limits for some pollutants will most likely improve in the near future, dischargers who are reporting regulatory compliance with current detection limits may not be in compliance when lower detection limits are achievable. OVSD (and likely other dischargers as well) have historically been required to report pollutant results with little regard to the detection limit achieved by the contract laboratory conducting the testing. This may have led to EPA's grossly under estimating the cost impact of the CTR. Detection limits of many priority pollutants identified in the CTR are actually lower than those achieved during recent special testing of OVSD's effluent to identify low pollutant levels. Therefore, the potential compliance costs to our commercial and residential dischargers could be significant, yet the Economic Analysis for the draft CTR could not estimate such costs. As a more reasonable alternative, OVSD recommends that a watershed approach be used to address these pollutants. OVSD's receiving water (the Ventura River) is currently managed using the watershed approach.

Response to: CTR-067-004a

EPA recognizes that regulation of point source discharges alone cannot address all existing or future environmental problems from pollutants in inland surface waters, enclosed bays, and estuaries in California. For example, in addition to discharges from point sources, toxic pollutants are also potentially contributed from other sources such as industrial and municipal emissions to the air, resuspension of pollutants from contaminated sediments, urban and agricultural runoff, hazardous waste and Superfund sites, municipal landfills, and spills. Restoration and maintenance of a healthy ecosystem will require significant efforts in many of these areas.

EPA believes that in certain parts of California, nonpoint sources and other diffuse sources of pollution are responsible for significant amounts of the loadings of some pollutants of concern. Where such continuing contribution of toxic pollutants by these sources occurs, increased controls by point sources may not lead to cost-effective environmental improvement.

EPA encourages all States and Tribes to implement water quality protection programs on a watershed basis. EPA's Watershed Protection Approach is based on the assumption that water quality and ecosystem problems are most efficiently managed at the watershed level rather than an individual water body or discharger level. However, the decision to regulate at the watershed level rests with the State and will be dependent upon many site-specific factors applicable to the watershed (e.g., number and types of pollutant sources).

EPA also recommends that States and Tribes establish total maximum daily loads (TMDLs) when dealing with difficult environmental problems, for example, persistent, ubiquitous pollutants and water quality impacts resulting in large part from nonpoint sources and lack of data and scientific uncertainty. Wasteload and load allocations recommended by a TMDL may be based on a reasonable expectation that

water quality standards will be met in a reasonable period of time after appropriate controls are put in place. When there is a reasonable expectation that standards will be achieved in a reasonable period of time, TMDLs may schedule implementation activities, including collecting performance data, that would result in a more cost-effective control strategy and lower costs than the methodology used to estimate compliance costs for the CTR.

See also response to CTR-004-002.

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Comment ID: CTR-070-003  
Comment Author: Sewerage Agency of Sthrn Marin  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: E-01n Detection Limits  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: Other impacts Significant impacts may also result from dramatic reductions in discharge limits for PAH'S. Calculated discharge limits for SASM are an order of magnitude lower than the detection limits currently used for SASM effluent.

Response to: CTR-070-003

While it is true that SASM's estimates indicate significant required loading reductions (86% to 91%) based on current and projected effluent limits, the maximum effluent concentration is below detection levels indicating that the pollutants have never been detected. SASM does not provide detailed effluent data or describe existing treatment processes, thus EPA cannot estimate CTR-based limits for this facility nor assess whether additional treatment is required or pollution prevention or process optimization would be sufficient to ensure compliance with CTR-based limits. Because the pollutants have never been detected, EPA would most likely estimate zero costs under its low scenario and, under its high scenario, would probably include costs for pollution prevention or process optimization (depending on the facts relevant for the particular facility) for these pollutants as a result of the CTR.

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Comment ID: CTR-082-009a  
Comment Author: City of Burbank  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: E-01n Detection Limits  
References:  
Attachments? N  
CROSS REFERENCES C-28  
B Comment Period

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Comment: The subject rule has a significant impact on our facility discharge and the citizens of the City. We therefore present the following comments for your consideration to re-open the comment period for this rule in order to facilitate a more complete review by public and in particular by those in the POTW community:

\* A further problem with the analysis relates to the establishment of criteria that are below analytical detection. Lacking credible data, it was not possible to conduct cost-benefit analyses or determine that any set of control measures would or could lead to compliance. This fundamental inability to utilize established rulemaking procedures mandates further work prior to the promulgation of the criteria.

Response to: CTR-082-009a

See responses to CTR-045-011 and CTR-005-009.

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Comment ID: CTR-085-018a  
Comment Author: Camarillo Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: E-01n Detection Limits  
References:  
Attachments? N  
CROSS REFERENCES C-28

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Comment: The District supports the following positions of CASA and SCAP where changes need to be made in the proposed California Toxics Rule:

\* A further problem with the economic analysis relates to the establishment of criteria that are below analytical detection. Lacking credible data, it was not possible to conduct cost analysis or determine that any set of control measures would or could lead to compliance. This fundamental inability to utilize established rule making procedures mandates further work to the promulgation of the criteria.

Response to: CTR-085-018a

See response to CTR-045-011.

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Comment ID: CTR-107-002c  
Comment Author: Brian E. Hill  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01n Detection Limits  
References:  
Attachments? Y  
CROSS REFERENCES E-01

Comment: On September 17, I attended a hearing on the proposed CTR at the EPA's regional office in San Francisco. Here are some key issues from the testimony at that hearing:

- \* Some of the limits are below normal detection limits, therefore agencies have no background data in order to perform accurate attainability analysis.
- \* The cost of implementation by the EPA is grossly underestimated. The economic analysis shows at maximum implementation cost of \$87 million. If preliminary estimates by publicly owned treatment works (POTW) are correct, implementation of the CTR will far exceed the \$100 million provision of the Porter-Cologne Act. If this is the case, feasibility of implementation will be in jeopardy. The City of Merced, CA estimates that their additional cost would be \$4 million annually. Merced has a very small treatment facility.
- \* Robert Reid, speaking on behalf of California Association of Sanitation Agencies (CASA), said that four San Francisco Plants estimate their total implementation costs to be \$160 million annually.
- \* Charles Batts of Bay Area Dischargers Authority (BADA) estimated five BADA POTWs costs to be \$12 million per year to meet the strict limit on copper and \$56 million per year to meet the organics limit.
- \* The Regional Water Quality Control Board testified that San Francisco discharges twenty percent of the four percent discharged into the San Francisco Bay by POTWs, noting that POTWs are only a minor part of the volume discharged into the Bay. Thus, the reduction to the prescribed limits would cause a negligible decrease in the total mass of pollutants discharged.
- \* The City of Sacramento projects a \$200 million annual cost will be required to meet the copper limit.

All of the testimony at the hearing echoed these concerns. I am sure that you have access to a transcript. The Clean Water Act has been and is instrumental in cleaning up our rivers, lakes, bay and estuaries. We can continue on this steady path by setting gradual attainable limits and through increased public education. Limits on pollutants should continue to get stricter, but this has to occur on a gradual curve that will not place an unreasonable burden on the individual taxpayer.

Response to: CTR-107-002c

See responses to CTR-107-002a, CTR-041-018, CTR-038-003, CTR-056-018, CTR-021-010, CTR-021-005c, CTR-040-039, CTR-035-011a, and CTR-035-064.

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Comment ID: CTRH-002-019  
Comment Author: Ing-Yig Cheng  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: L.A. Bureau of Sanitation  
Document Date: 09/18/97  
Subject Matter Code: E-01n Detection Limits  
References:  
Attachments? N

## CROSS REFERENCES

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Comment: Another point we would like to make with respect to the economic analysis deals with the fact that this analysis ignores a potential cause related to compliance for criteria that are being set at below-method detection limits. Again, using Tillman as a case study, the limit on lindane was specified at 19 parts per trillion in the Inland Surface Water Plan. And at the time of promulgation of ISWP, no lindane was detected in the Tillman effluent. However, soon after the new permit was issued, better analytical methods for lindane became available, and subsequently we found Tillman to be consistently in non-compliance. Since that time, Tillman has had lindane concentrations of around 30 parts or so in excess of the permit limit of 19, and the cost for lindane compliance was an unexpected factor that we were forced to address because of better detection limits of lindane, not because Inland Surface Water Plan did not address the issue.

So I think on -- on the other hand that, you know, we can say that no economic analysis could be or need to be performed when the only data available are non-detects. But this issue is real and we are experiencing that. EPA minimally must provide a mechanism to incorporate this scenario into the economic process as they occur.

Response to: CTRH-002-019

See responses to CTR-045-011 and CTR-035-064.

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Comment ID: CTRH-002-022  
Comment Author: Ing-Yig Cheng  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: L.A. Bureau of Sanitation  
Document Date: 09/18/97  
Subject Matter Code: E-01n Detection Limits  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: MS. FRANKEL: I have just one question. If I could ask you -- I missed the first thing that you had mentioned. You said that you were putting in some treatment to comply with the existing permit?

DR. CHENG: In the case of lindane, we would have to go to really drastic measures. And no, we have not. We are still in noncompliance. And while we were contemplating on project to deal with the lindane case back in 1994, that was about the time that Inland Surface Water Plan was rescinded, and therefore we were basically taking the approach "wait and see what happens" without spending hundreds of millions of dollars. I think -- I believe the figure was \$200 million to go through our own whatever necessary to remove lindane.

I might as well mention, at that time methylene chloride is a similar case. But the City in good faith effort pursue all avenues, and actually we were able to bring the methylene chloride issue to compliance through very aggressive retreatment program. So we're very proud of that, and that supports the EPA's program in source control and a lot of other things.

But we believe, in our case, that the case of lindane, we have exhausted all of the industrial potential dischargers and it comes to perhaps home use, head lice treatment, doing shampoo, that type of thing. And since 1992 we have entertained request with state consumer product affair regulations to see if they could do something about it. But these are the type of things that are beyond our capabilities other than putting in real expensive treatment. And I hope you understand why we are so concerned with the detection limits and making the need to be provided as these things will occur because scientists are going to make progress and we're going to find where we didn't think there was a problem.

MR. MORRIS: The other comment you made is that the cost when the limit is below the quantitation level - -

DR. CHENG: Yes.

MR. MORRIS: -- and the analysis does to a certain extent look at those types of costs. In the high-end scenario, it is a limit-to-limit analysis. So if you look at the WQBEL for PCBS, let's say, the typical WQBEL for PCBs is the quantitation level; the WQBEL for the CTR will be below the quantitation level. In those, if there was a difference between those two limits which are below the quantitation level, we would cost the treatment to give the current statement to ours. So there is an element in there that deals with WQBELs below quantitation.

We've done similar type analysis for other rule-making; but you've got to understand that, when you do those, they're highly speculative because a lot of times you don't really know if it's there or not. And when we do these types of regulations in other parts of the country, a lot of times the dischargers and the municipalities say the same thing. We've all got this pollutant. You can't quite see it because it's right below the detection level.

What we've done in the past when we go out in the field and try to find these pollutants, they don't really exist. So I guess what I'm saying to do is that when we spend a lot of money going out to try to identify whether or not you have it, the likelihood is it's like mercury which is fairly ubiquitous. What we're finding is they're down under a part per billion for dischargers.

DR. CHENG: Thank you. I understand what you're saying and I highly respect your economic analysis because I'm an economist. However, maybe I have not made the case real clear.

The case about lindane is real clear. Back in 1991, I believe our detection limit was about 200 parts per trillion. Nobody had detected anything using the best method. Criteria was set at 19 for the highest WP, but it's just such a coincidence that my labs were getting better, using capillary columns and all these other things, and better control of even the gas chromatograph injection techniques; but now we go below 19 and all of a sudden we found out that we are about 30. It's real. It's generating permit violations every month just about. So I can recall only maybe a handful of months throughout the six- or seven-year period that we were not exceeding the 19.

So while I can appreciate that there are case histories where it's just a big worry that the sky might fall, in this case the sky has fallen. And so I would like to just make it clear that I have not gone through your analysis to fully understand about WQBEL and how you do it, but perhaps one practitioner's point of view, the cost that we assess to comply with lindane, for example, is in the hundreds of million of dollars, and because the only technology based on what we know was based on something like reverse osmosis, is that something that through the economic analysis will be washed out?

MR. MORRIS: If in our analysis we have a permit limit for that pollutant and the state's permit limit and you're violating that limit, we would not take the hit for you getting into compliance with your current state permit limit.

DR. CHENG: I understand EPA's approach and EPA's policy. However, it does behoove us to recognize that it is an unfair situation. The legal basis for Inland Surface Water Plan is not there. And can we not -- Looking at the books I see it.

MR. MORRIS: I think that in your particular case, if you truly have this problem and you're truly looking at the kind of economic impacts that you say you're going to RO, or whatever you need to get to this limit, I would apply for a variance. I would continue to aggressively implement and apply for a variance and lay the facts on the table and, let's say, look at them, make a decision. But I think that requires going public, putting the data on the table, showing them what you've done, showing that its -- you can't find the source, it's ubiquitous, and there is no way you can take it out other than going to plant treatment. But the public has to review the facts and make a decision.

DR. CHENG: I appreciate very much your suggestion indeed, since the City of L.A. has been basically trying its best to address all pollution concerns. We are confident that it is -- We are concerned that it's got to be addressed one way or another.

Response to: CTRH-002-022

See responses to CTR-045-011, CTR-032-004, CTR-060-019, CTR-040-026, and CTR-035-064.

EPA agrees that benefits are likely to be highly site specific. However, sites likely to experience a disproportionate share of the benefits are also likely to incur a disproportionate share of the costs.

In addition, once water quality standards are in place, sites that are currently less impacted by toxic pollutants may experience cost savings by preventing future cleanup costs. That is, it may be more cost-effective to prevent toxic pollutants from entering surface waters than to clean up and remediate the impacts once toxic pollutants are released. However, should the State determine through a total maximum daily load (TMDL) allocation that controls on nonpoint sources are a more cost-effective approach to achieving standards, the State can redistribute the allocations through the TMDL process.

The range of estimated benefits in part reflects the range in loadings reductions that may result from point source controls given the flexibility in State implementation procedures. The decision as to which implementation procedures will be employed, and therefore what costs and benefits will result, will be made by state and local entities for specific locations.

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Subject Matter Code: E-01n01 Non-Detects, No Cost

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Comment ID: CTR-040-028

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01n01 Non-Detects, No Cost

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that if monitoring data was available but all values were reported as below analytical detection levels, that the discharger will not incur costs as a result of the CTR.

Response to: CTR-040-028

If a discharger had no effluent data, EPA did not automatically assume that the discharger would have no costs as a result of the CTR. When effluent data was available, however, EPA used the method in EPA's Technical Support Document for Water Quality-based Toxics Control (1991) to determine reasonable potential and then followed the methodology (i.e., the cost-decision matrix) described in the Economic Analysis (EA) of the final CTR to estimate costs. In the absence of data under the high scenario, reasonable potential was assumed if the discharger had an existing permit limit for a pollutant and EPA then estimated costs using the methodology described in the EA. See also response to CTR-003-011.

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Comment ID: CTR-041-024

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01n01 Non-Detects, No Cost

References:

Attachments? N

CROSS REFERENCES

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that if monitoring data was available but all values were reported as below analytical detection levels, that the discharger will not incur costs as a result of the CTR.

Response to: CTR-041-024

See response to CTR-003-011 and CTR-005-009.

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Comment ID: CTR-044-019  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-01n01 Non-Detects, No Cost  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that if monitoring data was available but all values were reported as below analytical detection levels, that the discharger will not incur costs as a result of the CTR.

Response to: CTR-044-019

See response to CTR-003-011.

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Comment ID: CTR-054-023  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01n01 Non-Detects, No Cost  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that if monitoring data was available but all values were reported as below analytical detection levels, that the discharger will not incur costs as a result of the CTR.

Response to: CTR-054-023

See response to CTR-003-011.

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Subject Matter Code: E-01o Background Levels

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Comment ID: CTR-003-010

Comment Author: City of Riverside

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: E-01o Background Levels

References:

Attachments? N

**CROSS REFERENCES**

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Comment: 10) In general we were impressed by the level of effort used in the economic analysis. However the paucity of data at levels sensitive enough to characterize the compliance status of the waters and the underlying assumptions used in their place, completely overshadowed it's finer points. For example, the use of zero for the ambient receiving water background concentration in the absence of reported numbers is not appropriate for chemicals typically found in the environment but may be appropriate for exotic chemicals if their use is non-existent in the area. Given the extremes in potential costs involved here, it would have been appropriate to run the analysis once under the assumption that it is zero and again assuming that it equals the detection level for that chemical.

Response to: CTR-003-010

For analysis of the final CTR, EPA collected the most recent publicly available data and information for each of the sample facilities including permits fact sheets, permit applications and monitoring data. Data submitted as a part of the public comments were also reviewed and considered. However, because only four of the sample facilities are allowed dilution, EPA applied the CTR criteria directly as effluent limits for most of the sample facilities (i.e., since no dilution was provided, background data did not affect the stringency of the effluent limit).

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Subject Matter Code: E-01p Risk Level Costs

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Comment ID: CTR-035-050  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01p Risk Level Costs  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: pp. 5-1 - 5-2 (U.S. EPA, 1997b) -- Analysis of 10E-5 Risk Level for Carcinogens We disagree with EPA's conclusion that "the changes in estimated costs and pollutant load reductions based on the lower risk level of 10E-5 are minimal." In fact, under the low cost scenario, the analysis shows that there would be >25 percent cost savings, with only a 3 percent lowering in pollutant reductions. We believe that analysis demonstrates that it is probably cost-effective to lower the risk level for carcinogens. However, given the equivocal results for the high cost scenario, we recommend that EPA re-analyze the impacts of modifying the risk level, and look not only at the attainability and cost analysis, but analyze the actual change in risk levels that would result, given the uncertainty factors that are built into the criteria. Based on all of the conservative assumptions included in the calculation of the criteria, there is significant uncertainty in the numbers, which may translate to negligible risk from using lower risk levels. EPA should factor this uncertainty into the risk assessment, along with population exposure, when evaluating risk levels for the human health criteria.

Response to: CTR-035-050

See response to CTR-003-011.

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Comment ID: CTR-035-056c  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01p Risk Level Costs  
References:  
Attachments? N  
CROSS REFERENCES E-01c02  
E-01c01

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Comment: Introduction

On behalf of CASA and Tri-TAC, M.Cubed reviewed the U.S. Environmental Protection Agency 's (USEPA) Economic Analysis (Analysis), as well as the report's underlying benefit and cost data and analyses. M.Cubed's overall reaction is that policy makers and the regulated community can place little

confidence in either the benefit or cost analyses -- the uncertainties and broad assumptions contained in these analyses largely undermines their findings. Based on the information provided by USEPA, M.Cubed's judgement is that the proposed California Toxics Rule (Rule) will result in multi-million dollar annual costs -- and have substantial impacts on individual publicly-owned treatment works (POTWS) and dischargers -- and may result in no noticeable benefits to public health or the environment. A critique of specific weaknesses in the cost and benefit analyses is provided below.

#### Weaknesses in Overall Report Findings

The Analysis' overall findings exhibit a number of flaws, as follows:

USEPA's estimates indicate that Rule costs outweigh benefits, both on an annualized and present value basis. USEPA's claim that comparison "...of both annualized benefits and costs and discounted benefits and costs indicates that the monetized benefits of the CTR are of the same general magnitude as the costs" is simply not true (U.S. EPA, 1997a, page 9-2). For example, using USEPA's comparison of a twenty-year phase-in of benefits at a 3 percent discount rate against a ten-year phase-in of costs at a 7 percent discount rate, or benefits of between approximately \$20 to \$600 million against costs of about \$180 million to \$1 billion (setting aside the significant weaknesses in the analysis; differences in the probabilities of low or high outcomes; and questions over the appropriate discount rate to apply)(\*2) indicates a low cost scenario which is nine times higher than the estimated benefits, and a high cost scenario which is almost twice as high as benefits.(\*3)

Executive Order 12866, which requires the economic review, defines "significant regulatory action" as one that is likely to "adversely affect ... a sector of the economy." Yet, although the USEPA finds that two sectors will incur the majority of the regulatory costs -POTWs and chemical/petroleum products -- it provides no analysis of whether or not these costs are "significant" to these sectors. Likewise, USEPA does not examine the potential costs or their implications to small businesses (e.g., health care providers; automobile repair shops), small communities, or non-significant industrial users (SIUs) in general (i.e., industries that are regulated by POTWs through local ordinances, rather than under federal rules)

USEPA's conclusion that the use of different risk levels would not significantly influence compliance costs is not supported by its data. Based on USEPA's own data, use of a 10E-5 risk level for carcinogens would induce a 25 percent cost savings relative to a 10E-6 risk level under the low cost scenario, with a 3 percent change in pollutant loadings.(\*4)

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(\*2) Noticeable benefits seem unlikely to emerge in the near term, if at all, due to the persistence of existing contaminants in the environment, while costs will be incurred over one to two decades. Use of a lower discount rate for benefits would reflect the greater value future generations may place on environmental amenities, an assumption which is open to debate.

(\*3) The large differences between benefits and costs is mirrored by the wide range in estimated pollution reduction. Under USEPA's low scenario, only .63 million toxic pounds- equivalent are expected to be reduced under the rule, compared to a high scenario reduction of 7 million pounds equivalent. That is, reductions under the high scenario are eleven times higher than under the low scenario.

(\*4) Under the high cost scenario cost reductions are less than 1 percent, with a 7 percent change in pollutant loadings.

Response to: CTR-035-056c

See responses to CTR-021-005c, CTR-056-018, and CTR-003-012.

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Comment ID: CTR-052-016

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01p Risk Level Costs

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

**CROSS REFERENCES**

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Comment: C. RECOMMENDATIONS FOR MODIFICATIONS TO THE CTR AND EA

Specify carcinogenicity risk factor of  $10E-5$ . EPA should acknowledge that a significant portion of the attainability, cost, and benefit issues can be addressed by the simple modification of the carcinogenicity risk factor. EPA should clearly state that the criteria are based on a risk factor of  $10E-5$ , and strongly urge its use by the State in its Implementation Plan. As noted in the analysis by Larry Walker Associates, Authority and BADA attainability and cost issues are essentially resolved if the criteria are based on a risk factor of  $10E-5$ . In addition, existing permit limits and high level of compliance remain in place.

Response to: CTR-052-016

See response to CTR-003-012.

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Subject Matter Code: E-01q Source Reduction

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Comment ID: CTR-004-003  
Comment Author: South Bayside System Authority  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: E-01q Source Reduction  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: Industrial source control and pollution prevention activities cannot be relied on to achieve the reductions that may be needed. The Sources of Pollutants of Concern and Waste Minimization Plan study, conducted by SBSA in 1992, identified that most of the pollutants of concern are not from industrial or commercial users. Complete elimination of industrial and commercial discharges would not resolve the compliance problems. The conceptual cost estimate for metals and organics removal treatment (reverse osmosis) technology at SBSA is around \$18 million dollars per year.

Response to: CTR-004-003

EPA agrees that pollution prevention may not be applicable or effective in all circumstances. Before estimating costs for the final Great Lakes Water Quality Guidance, which was used as the basis of pollution prevention cost estimates for the CTR, EPA attempted to collect additional data related to the cost and effectiveness of pollution prevention techniques for the pollutants being regulated under the final Guidance. The result of these efforts, which generally constituted an extensive review of the EPA Pollution Prevention Information Clearinghouse (PPIC), indicated that limited documentation was available regarding the effectiveness of pollution prevention to remove many of the pollutants included in the CTR. The limited information did, however, suggest that facilities could eliminate toxic constituents from their operations using pollution prevention techniques such as raw materials substitution and process modifications (EPA, 1992; EPA, 1994).

In estimating costs for the CTR, EPA used a decision matrix for purposes of estimating the types of controls and costs associated with these controls to avoid unjustified use of waste minimization/pollution prevention techniques to achieve CTR water quality-based effluent limits (WQBELs). Under the decision matrix, waste minimization/pollution prevention was considered only after consideration of modifying existing treatment systems to achieve CTR-based WQBELs. Further, waste minimization/pollution prevention controls were considered when the production process or source generating the pollutant was amenable to pollution prevention techniques, and when addition of treatment was not justifiable. Three cases where EPA assumed that the addition of treatment would not be justified are detailed below.

1. Existing discharge data indicate that the pollutant is most often in compliance with projected CTR-based effluent limits. The reported maximum effluent concentration or existing permit limit does not reflect standard discharge levels. For instance, treatment costs were not assigned to pollutants reported above detection levels only once in three years. A pollutant was considered most often in compliance with projected limits if sufficient data were available and approximately 80% or more of the observations were already in compliance with the projected permit limit.

2. Discharge monitoring data are inconclusive to assume treatment costs. It was assumed that a facility would not add treatment without having sound proof that it was needed. Treatment was not selected if discharge monitoring data were not available or very limited (i.e., 1 or 2 data points), discharge data were not recent (i.e., previous to 1993) or did not reflect existing operating conditions, in particular when operating practices described in a recently re-issued permit indicated the decrease in the discharge of pollutants.

3. The pollutant loading reduction is insignificant in terms of percentage load reduction (i.e., 10-25%).

As an alternative to the use of waste minimization/pollution prevention, EPA also considered the use of the flexibility provided through the National water quality standards and NPDES programs (i.e., alternative regulatory approaches such as phased total maximum daily loads/water quality assessments, site-specific criteria modifications, standards variances, metals translators, etc.) as a control alternative in estimating costs for the CTR. However, the use of alternative regulatory approaches was limited to only those facilities under the low-end scenario where the estimated cost was disproportionately high as compared to the resulting estimated pollutant reduction.

#### References:

U.S. EPA. 1992. Pollution Prevention Options in Metal Fabricated Products Industries; A Bibliographic Report. EPA/560/8-92/001A. Washington, DC. Pages 20 - 23.

U.S. EPA. 1994. 33/50 Program Company Profiles: Reduction Highlights. EPA-745-K-94-017. Washington, DC. Pages 2, 4, and 7.

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Comment ID: CTR-021-012

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: E-01q Source Reduction

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

#### CROSS REFERENCES

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Comment: The CTR Incorrectly Extrapolates Assumptions Regarding the Effectiveness of the City's Source Control Program Regarding Metals Control Measures that Leads to Erroneous Conclusions Regarding Compliance with Projected CTR Effluent Limits

CTR Appendix I-B-1 1 refers to Sunnyvale's 1994 Local Limits Compliance Strategy report relative to an alternative analysis of copper compliance. The appendix asserts that implementation of the City's recommended pollution prevention and source control activities "is believed to be sufficient to the 4.9 ug/L limit" and that costs to achieve a 5.5 ug/L CTR limit would range from \$400,000 to \$2,000,000. The City's reports do not support this conclusion, but rather indicate that the WPCP would probably not attain the limits. It is important to note that since the 1994 report, the City has fully implemented the copper control measures recommended in that report and the effluent quality is above the 4.9 or 5.5 ug/l

level 30-40% of the time. As described elsewhere in this memo, the CTR authors continue to confuse compliance with a non-existent monthly average limit with the actual daily maximum limit which cannot be exceeded on any day.

The majority of copper now entering the treatment plant is from the local water supply, from corrosion of residential copper plumbing. This is not a source that is under the control of the City although the City has worked with the water purveyors to help optimize their corrosion control efforts. This CTR appendix needs to be corrected to reflect Sunnyvale has implemented the "reasonable control measures" and there is no basis for assuming that further pollution control measures will achieve copper compliance.

Response to: CTR-021-012

EPA's revised Economic Analysis of the CTR does not include the alternative analysis for copper compliance that was presented in the draft version (Appendix I-B-1 of the Technical Support Document dated May 5, 1997). Therefore, Sunnyvale's comments regarding the feasibility of this cost estimate are no longer applicable. In its revised cost analysis, EPA used dissolved water quality criteria for copper and assumed that the criteria would be implemented using metals translators (EPA used a site specific translator of 2.6 for copper). Effluent quality data for copper indicate that the facility is in compliance with CTR criteria (only one effluent data point collected between 1995 and 1997 was above the CTR-based limit). Thus, EPA concluded that a pollution prevention program was sufficient to ensure compliance with the CTR-based limit and estimated costs for this program.

In addition, Sunnyvale asserted that EPA confused compliance with a nonexistent monthly average limit with the actual daily maximum limit. The methodology EPA used to derive permit limits for the draft and final economic analyses of the CTR establishes that for each pollutant assumed to have reasonable potential, a maximum daily limit and an average monthly limit are calculated. This is a standard NPDES permitting requirement and is detailed in the Technical Support Document for Water Quality-based Toxics Control (U.S. EPA, 1991). For the final Economic Analysis, EPA used the average monthly limit as the projected CTR-based limit because it is the most stringent limitation imposed on this facility. EPA estimated pollution control costs based on individual violations of the average monthly limit, as if the average monthly limit was a maximum daily limit. As a result of these assumptions, EPA's estimates are more conservative than those based on maximum daily limits.

EPA recommends referring to Box 5-2, "Calculating Permit Limits Based on Two-Value Wasteload Allocation," (page 100) of the Technical Support Document for Water Quality-based Toxics Control, for a step by step explanation of EPA's methodology.

See also the response to CTR-021-017.

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Comment ID: CTR-035-062  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01q Source Reduction  
References:  
Attachments? N

## CROSS REFERENCES

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Comment: Weaknesses in Cost Analysis The report's cost estimates exhibit a number of significant weaknesses, as follows:

\* The Analysis assumes a very loose and highly effective trigger for use of low-cost waste minimization/pollution prevention techniques. USEPA asserts that 10 to 25 percent reductions in current discharge levels is "insignificant," and would be fully addressed by low-cost waste reduction strategies. (\*10) Little data is provided to support this assertion. Individual POTWs and dischargers may already be implementing all feasible low cost techniques; or these techniques may be insufficient to obtain the necessary reductions. As indicated by USEPA itself, "...without process-specific information, it is unknown if waste minimization is technically feasible." (U.S. EPA, 1997b, page 2-33).

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(\*10) It is equally plausible that it will be extremely expensive to obtain an additional one to ten pounds per day of reductions, such as may be required in the City of San Jose.

Response to: CTR-035-062

See response to CTR-004-003.

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Comment ID: CTR-040-030

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01q Source Reduction

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that if a constituent only occasionally exceeds a calculated effluent limit, that the effluent limit can be achieved through source control even if the required reduction is on the order of 90% to 99% (as was done in the analysis of mercury and aldrin for the Sacramento POTW case study).

Response to: CTR-040-030

The results of the final CTR cost analysis indicate that aldrin is no longer a pollutant of concern for the Sacramento POTW. These results support the draft analysis in that no major costs should be associated with aldrin removal. No reasonable potential to exceed was concluded because no permit limit exists for aldrin and because the constituent was recorded consistently below detection levels during the last three years of monitoring (twenty-one observations).

Mercury criteria are 0.05 ug/l for freshwater and 0.05 ug/l for saltwater. In analysis of the final CTR, the required reduction for mercury is 72%. EPA still assumes that pollution prevention/waste minimization will be sufficient to comply with CTR limits. Forty-nine observations were made at the discharge from 1994 to 1997, and only three observations were recorded slightly above the proposed CTR limit. Since the facility is capable of complying with the proposed limit 95% of the time, EPA expects that the facility would find more cost-effective methods to comply with the CTR limit, and not incur the expense of adding treatment process units. See also response to CTR-004-003.

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Comment ID: CTR-041-026

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01q Source Reduction

References:

Attachments? N

**CROSS REFERENCES**

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that if a constituent only occasionally exceeds a calculated effluent limit, that the effluent limit can be achieved through source control even if the required reduction is on the order of 90% to 99% (as was done in the analysis of mercury and aldrin for the Sacramento POTW case study).

Response to: CTR-041-026

See response to CTR-040-030.

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Comment ID: CTR-044-021

Comment Author: City of Woodland

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01q Source Reduction

References:

Attachments? N

**CROSS REFERENCES**

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that if a constituent only occasionally exceeds a calculated effluent

limit, that the effluent limit can be achieved through source control even if the required reduction is on the order of 90% to 99% (as was done in the analysis of mercury and aldrin for the Sacramento POTW case study).

Response to: CTR-044-021

See response to CTR-040-030.

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Comment ID: CTR-054-025

Comment Author: Bay Area Dischargers Associati

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01q Source Reduction

References:

Attachments? N

**CROSS REFERENCES**

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that if a constituent only occasionally exceeds a calculated effluent limit, that the effluent limit can be achieved through source control even if the required reduction is on the order of 90% to 99% (as was done in the analysis of mercury and aldrin for the Sacramento POTW case study).

Response to: CTR-054-025

See response to CTR-040-030.

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Subject Matter Code: E-01q01 25% Assumption

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Comment ID: CTR-040-029a

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01q01 25% Assumption

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES E-01h01

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that POTWs can achieve a 25% reduction through source control and an additional 25% reduction through treatment plant optimization.

Response to: CTR-040-029a

EPA acknowledges that the effectiveness of source controls and process optimization techniques will vary from facility-to-facility, and will depend upon many factors, including for example, the volume of discharge, the type of manufacturing process used, and the inputs to the production process. However, EPA believes that, on average, assuming that reductions of less than 25% can be controlled by the use of source controls or process optimization is reasonable. EPA considered minor, low-cost modifications or adjustments of existing treatment feasible if the literature indicated that the existing treatment process could achieve the revised WQBEL and if the additional pollutant reduction was relatively small (e.g., 10% to 25% of current discharge levels). EPA assumes that prior to incurring capital expenditures, most facilities will evaluate low-cost alternatives for pollutant reduction.

It should be noted that in the analysis of costs for the Economic Analysis for the final CTR, EPA performed a literature search to verify the costs associated with treatment process optimization. As a result of this effort, EPA revised upward its estimate of process optimization costs to a range of \$60,000 to \$233,000 depending upon the general type of treatment processes being used at a facility and the volume of discharge. These estimates include costs for performing a process optimization study, as well as process modifications.

See also response to CTR-004-003.

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Comment ID: CTR-041-025a

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01q01 25% Assumption

References:

Attachments? N

CROSS REFERENCES E-01h01

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that POTWs can achieve a 25% reduction through source control and an additional 25% reduction through treatment plant optimization.

Response to: CTR-041-025a

See response to CTR-040-029a.

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Comment ID: CTR-044-020a

Comment Author: City of Woodland

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01q01 25% Assumption

References:

Attachments? N

CROSS REFERENCES E-01h01

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that POTWs can achieve a 25% reduction through source control and an additional 25% reduction through treatment plant optimization.

Response to: CTR-044-020a

See response to CTR-040-029a.

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Comment ID: CTR-054-013b

Comment Author: Bay Area Dischargers Assoc.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01q01 25% Assumption

References:

Attachments? Y

CROSS REFERENCES E-01g03

E-01m

E-02l

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Comment: The economic analysis is seriously flawed. The major flaws include: (1) failing to do an appropriate sampling of dischargers; (2) assuming in the high-end cost scenario that a 25% reduction could be achieved through source control and an additional 25% achieved through treatment plant optimization without capital improvements; (3) constraining estimates of potential costs through key assumptions, including the assumption that regulatory relief from the rule would be granted if costs were in excess of certain thresholds; and (4) exaggerating estimates of potential benefits by assuming an end (i.e., achievement of the proposed water quality criteria) that will not result from the rule (see Attachment 3). The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated. BADA's analysis shows that its member agencies alone could be faced with costs in excess of \$100 million per year to achieve effluent limits based on the copper, PAH, heptachlor and aldrin criteria. BADA's analysis also indicates that the benefits associated with this expenditure will be difficult to measure. Copper loadings will be reduced by 1% and the level of compliance for PAH's and heptachlor will remain unchanged at its present high level. Certainly these benefits will not measurably improve the fishing experience or measure the number of fisherman in the Bay, significantly reduce the cancer cases, or improve property values or other nonuse benefits, as estimated in EPA's economic analysis. A further consequence of the flawed economic analysis is the conclusion that the CTR is not a major rule (i.e., one which will result in excess of \$100 million per year expenditure) subject to Presidential Executive order 12866 and the Unfunded Mandates Reform Act or a rule that affects small entities protected under the Regulatory Reform Act. BADA agencies provide service to a number of small communities with populations under 50,000 people that could be greatly impacted by the proposed rule.

Response to: CTR-054-013b

See responses to CTR-021-008, CTR-040-029a, CTR-032-004, CTR-054-013a, CTR-056-018, CTR-021-005c, and CTR-059-018.

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Comment ID: CTR-054-024a  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01q01 25% Assumption  
References:  
Attachments? N  
CROSS REFERENCES E-01h01

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that POTWs can achieve a 25% reduction through source control and an additional 25% reduction through treatment plant optimization.

Response to: CTR-054-024a

See response to CTR-040-029a.



Subject Matter Code: E-01q03 Unit Cost Assumption

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Comment ID: CTRH-001-037b  
Comment Author: Robert Reid  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: CASA  
Document Date: 09/17/97  
Subject Matter Code: E-01q03 Unit Cost Assumption  
References:  
Attachments? N  
CROSS REFERENCES E-01c02  
E-01h02

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Comment: Second, the interaction between the CTR and the state's implementation policy is particularly important given our second concern, which is namely that the EPA's economic evaluation underestimates the costs and overestimates the benefits of implementing this rule.

Our concern about the cost estimates is based on the fact that the cost analysis appears to undervalue the magnitude of difficulty dischargers will have complying with permits issued based on this rule.

We are also concerned that the cost estimates for various compliance activities such as source control and treatment process optimization made in the case studies are overly optimistic and not reflective of the true actions that will need to be taken to insure compliance.

Overall, we are concerned that the expenditures that may be necessary for many POTWS to comply with the CTR will be large, these costs may not be matched by commensurate benefits, and that EPA has not analyzed whether point source controls are in fact a cost-effective way to achieve water quality standards.

Our preliminary analysis for just five agencies in the Bay Area to comply with the proposed standard for copper alone could amount to more than \$60 million per year -- 60 million. This number would be far higher if calculated for every pollutant listed in the CTR for the entire POTW industry in California.

Since this estimate would undoubtedly exceed the high end of the range contained in EPA's analysis, we believe it is necessary for EPA to redo the economic analysis to fully comply with its legal responsibilities.

In addition, revised economic analysis is necessary to provide a sound basis for the State to use in its analysis of the economic impacts of the implementation policy.

Response to: CTRH-001-037b

See responses to CTR-041-018, CTR-035-057, CTR-056-018, CTR-004-003, and CTR-040-039.

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Subject Matter Code: E-01r Economic Variances

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Comment ID: CTR-035-060

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01r Economic Variances

References:

Attachments? N

**CROSS REFERENCES**

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Comment: Weaknesses in Cost Analysis The report's cost estimates exhibit a number of significant weaknesses, as follows:

\* USEPA's use of averages to estimate individual POTW costs may mask significant expense variations. For example, some facilities may experience the great majority of total costs, while others may face less significant expenses. Likewise, the Analysis does not address costs associated with maintaining reliable water quality levels in the face of time or weather-related variations in discharges, such as peak loading.

Response to: CTR-035-060

See responses to CTR-035-061 and CTR-035-048.

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Subject Matter Code: E-01s 2ndary,Indirect Cost Impact

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Comment ID: CTR-009-008a  
Comment Author: City of Thousand Oaks  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: E-01s 2ndary,Indirect Cost Impact  
References:  
Attachments? Y  
CROSS REFERENCES E-02o  
E-02c

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Comment: The City does not agree with the economic analysis. It is incomplete and misrepresents the actual costs and benefits. The analysis does not include costs of expensive AWT to meet more stringent limits based upon the proposed criteria. It does not include the first second, and third order costs to the community, individuals and businesses, of the economic dislocations resulting from huge capital costs, especially for small and economically distressed communities, that divert scarce resources from other priorities or out of the area. It does not include cost impact assessments to low and fixed-income households - ignoring the economic aspects of environmental justice. The benefits assessments make vast unsupported assumptions about the benefits of reductions in constituent concentrations that are barely, if even, measurable, and assigns unrealistic contingent valuations to these assumed benefits. The cost analyses does not follow EPA's own economic assessment guidance (which, itself, is fatally flawed). These points were brought up during the Task Force meetings in 1995 and 1996, but were dismissed outright by EPA. The City hereby raises these issues for the formal record.

The City of Thousand Oaks appreciates the opportunity to comment on the proposed California Toxics Rule.

Sincerely,

Donald H. Nelson Public Works Director

Response to: CTR-009-008a

EPA's own economic assessment guidance (Interim Economic Guidance for Water Quality Standards, EPA-823-B-95-002, March 1995) is intended to assist States and applicants in understanding the economic factors that may be considered, and the types of tests that can be used to determine if a designated use cannot be attained, if a variance can be granted, or if degradation of high-quality water is warranted. In order to remove a designated use or obtain a variance, or if degradation of high-quality water is warranted, the state or discharger must demonstrate that attaining the designated use would result in substantial and widespread economic and social impacts. Although EPA is responsible for approving a State's water quality standards, the State is responsible for interpreting the circumstances of each case and determining where there are substantial and widespread economic and social impacts, or where important social and economic development would be precluded.

Estimating the economic impact of the CTR in California requires a detailed econometric model of the region's economy. EPA did not conduct such an analysis of the rule and the Clean Water Act does not

require such a analysis (see CTR-042-007a). However, for a similar toxics rule in the Great Lakes Basin, an econometric analysis was performed independent of the regulatory impact analysis for the Council of Great Lakes Governors (The Great Lakes Water Quality Initiative: Cost Effective Measures to Enhance Environmental Quality and Regional Competitiveness. DRI/McGraw-Hill, San Francisco, California, July 1993). This analysis showed a minimal impact of the rule on the region's economy for a worst case scenario, a scenario with costs far exceeding those estimated by EPA. Manufacturing output was estimated to fall by between 0.008% and 0.337% over a range of four scenarios evaluated, while personal income loss was estimated at between 0.002% and 0.094% for these scenarios. As a result, the study authors concluded that the impact of the rule on the region's economy would be "nearly imperceptible." Thus, similar controls on toxic pollutants have been shown to be affordable in other regions of the country.

EPA agrees that the contingent valuation method (CVM) elicits an individual's stated willingness to pay or accept compensation. The benefit-cost comparisons in EAs are prepared to inform the public and policy makers. Thus, the strengths and weaknesses of all aspects of the EA, including methodologies for estimating benefits, need to be made clear so that readers are aware of the limits and uncertainties. However, a 1993 Blue Ribbon Panel convened by the National Oceanic and Atmospheric Administration (NOAA) evaluated CVM and found it to be an appropriate methodology for measuring values. It is also the only method accepted by the U.S. Department of the Interior (DOI) to estimate nonuse values and has withstood Federal Court review for its use in litigation contexts.

Additionally, much of the criticism of CVM is conceptual rather than based on empirical research. Where CVM can be compared to other research techniques (e.g., use values estimated by the travel cost methodology or the hedonic price method), CVM is shown to yield similar values (see Brookshire et al., 1982 and Smith et al., 1986). Additionally, in several field experiments, actual purchase decisions were compared to hypothetical purchase decisions (Bishop and Heberlein, 1978 and Dickie et al., 1987). In all of these studies, hypothetical behavior was sufficiently predictive of actual behavior that researchers concluded meaningful values could be obtained for benefit-cost analysis or damage assessment.

Bishop, R.C. and T.A. Heberlein. 1978. Measuring values of extra-market goods: Are indirect measures biased? *American Journal of Agricultural Economics* 61(5): 926-930.

Brookshire, D., M. Thayer, W.D. Schulze, and R. d'Arge. 1982. Valuing public goods: A comparison of the survey and hedonic approaches. *American Economic Review* 72(1): 165-177.

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Comment ID: CTRH-001-023  
Comment Author: Julio Guerra  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: City of Merced  
Document Date: 09/17/97  
Subject Matter Code: E-01s 2ndary,Indirect Cost Impact  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: And one final point that I would like to make is that the management of the City of Merced is really looking hard at ending our discharge to surface waters because of the uncertainties of how much it

is going to cost in enforcement liability with the California Toxics Rule.

If that would happen, we would be doing a disservice to a thriving ecosystem. And I believe that the economic impact of people having to cease discharges because of the regulations should be taken into account as part the economic analysis.

Thank you.

Response to: CTRH-001-023

See response to CTR-021-008.

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Subject Matter Code: E-01u Economic Consid. Task Force

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Comment ID: CTR-032-008a  
Comment Author: Las Gallinas Val. Sanitary Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01u Economic Consid. Task Force  
References: Letter CTR-032 incorporates by reference letter CTR-035  
Attachments? N  
CROSS REFERENCES E-01c02

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Comment: Economic Analysis

The District supports CASA/Tri-TAC's conclusions that the Economic Analysis has significant technical weaknesses, is based on a large number of assumptions and minimal empirical data, and that it almost certainly understates costs and overestimates benefits. There is a critical need for a sound economic analysis. We also agree with their recommendation that EPA and the SWRCB undertake a collaborative process with interested members of the public to revise the Economic Analysis based on guidelines in the Economic Considerations Task Force Report.

Response to: CTR-032-008a

See responses to CTR-056-018 and CTR-034-016.

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Comment ID: CTR-034-016  
Comment Author: SCAP  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01u Economic Consid. Task Force  
References: Letter CTR-034 incorporates by reference letter CTR-035  
Attachments? N  
CROSS REFERENCES

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Comment: \* Based on these and other issues discussed in the attachments, we strongly urge EPA to revise its Economic Analysis, and recommend that EPA and the SWRCB work together with stakeholders to craft a revised approach that is mutually acceptable. We would be pleased to assist in such an effort.

Response to: CTR-034-016

EPA has worked very closely with the State to develop the results of the Economic Analysis (EA). The Agency considered all comments and information regarding the EA that accompanied the proposed CTR and revised the EA, as appropriate. In the post proposal process, EPA also met with stakeholders, as

requested, to discuss their concerns regarding the EA and made revisions, where necessary. EPA did not want to alter the EA methodology without another round of public comment which likely would have resulted in enormous additional costs and more delays. This was not justifiable given that the methodology was sound and the criteria are science, and not economically, based.

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Comment ID: CTR-035-011a  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-01u Economic Consid. Task Force  
References:  
Attachments? N  
CROSS REFERENCES M  
B Comment Period

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Comment: EPA's Economic Analysis is important not only for EPA's rulemaking, but for the SWRCB's promulgation of the State's Implementation Policy. Without significant improvements, we do not believe that EPA's Economic Analysis would comply with the requirements of the state Porter-Cologne Act if used by the SWRCB to support the State Proposal. We propose that EPA and the SWRCB undertake a collaborative process with interested members of the public to revise the Economic Analysis, based on methodologies and assumptions Jointly agreed 91 upon. Such a process was recommended by the Economic Considerations Task Force convened by the SWRCB in 1995, based on the process used in the Bay-Delta process. Guidelines for embarking on a collaborative process were proposed in the Task Force Report (SWRCB, 1995, Section VIII). We believe that this process could result in a mutually acceptable and defensible analysis that both EPA and the SWRCB could use to satisfy their respective rulemaking requirements for economic analysis.

Based on the extensiveness of the modifications we believe EPA should make to both the proposed rule and the accompanying Economic Analysis, we request that EPA re-propose the rule for public review and comment before publishing the CTR as a final rule.

Response to: CTR-035-011a

See responses to CTR-021-004 and CTR-034-016.

The EA is part of a Federal action that is not subject to the requirements of the Porter-Cologne Act. The State, in the development of its Implementation Plan, is solely responsible for compliance with the requirements of the Porter-Cologne Act and other relevant State statutes. EPA is unable to comment on whether or not the State's future actions will withstand potential judicial review. However, EPA stands by its economic analysis as being an appropriate estimate of the costs likely to be incurred by California facilities as a result of implementation of the CTR.

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Comment ID: CTR-045-014  
Comment Author: Sausalito-Marín Sanitary Dist.  
Document Type: Sewer Authority

State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: E-01u Economic Consid. Task Force  
References:  
Attachments? Y

**CROSS REFERENCES**

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Comment: EPA and SWRCB should undertake a collaborative process with interested members of the public to revise the Economic Analysis, based on methodologies and assumptions jointly agreed upon, similar to the process recommended by the SWRCB's Economic Considerations Task Force.

Response to: CTR-045-014

See responses to CTR-021-004 and CTR-034-016.

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Comment ID: CTR-049-007  
Comment Author: Watereuse Assoc. of California  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: E-01u Economic Consid. Task Force  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: The accuracy of the Economic Analysis as contained in the CTR is extremely important. As such, we encourage the USEPA and the SWRCB to undertake a collaborative process with interested members of the public to revise the existing Economic Analysis to be based on methodologies and assumptions which are jointly agreed upon.

We respectfully submit these comments to the draft CTR for your consideration. If you should have any questions about WateReuse or the remarks contained in this correspondence, please feel free to contact me at (916) 442-2746 or our Executive Director Peter MacLaggan at (619) 523-4661. Thank you for your continued support of recycled water.

Response to: CTR-049-007

See responses to CTR-021-004 and CTR-034-016.

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Comment ID: CTR-056-023  
Comment Author: East Bay Municipal Util. Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:

Document Date: 09/22/97

Subject Matter Code: E-01u Economic Consid. Task Force

References: Letter CTR-056 incorporates by reference letter CTR-054

Attachments? N

**CROSS REFERENCES**

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Comment: Because of the importance of the Economic Analysis, EBMUD and many other public agencies affected by the CTR believe that EPA and the SWRCB should adhere to the recommendation of the SWRCB's Economic Considerations Task Force convened by the SWRCB in 1995, and use a collaborative process in cooperation with interested members of the public to revise the Economic Analysis based on methodologies and assumptions jointly agreed upon. We believe that such a process will result in a mutually acceptable and defensible analysis that can satisfy the respective rulemaking requirements for an economic analysis.

Response to: CTR-056-023

See responses to CTR-021-004 and CTR-034-016.

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Comment ID: CTR-066-018

Comment Author: Delta Diablo Sanitation Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01u Economic Consid. Task Force

References:

Attachments? N

**CROSS REFERENCES**

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Comment: The areas with which we find concerns and the requested changes include the following:

\* Because of the importance of the Economic Analysis, EPA and the SWRCB should undertake a collaborative process with interested members of the regulated community and public to revise the analysis, based on methodologies and assumptions jointly agreed upon, similar to the process recommended by the SWRCB's Economic Considerations Task Force.

Response to: CTR-066-018

See responses to CTR-021-004 and CTR-034-016.

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Comment ID: CTR-082-012

Comment Author: City of Burbank

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: E-01u Economic Consid. Task Force

References:

Attachments? N

CROSS REFERENCES

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Comment: The subject rule has a significant impact on our facility discharge and the citizens of the City. We therefore present the following comments for your consideration to re-open the comment period for this rule in order to facilitate a more complete review by public and in particular by those in the POTW community:

\* Because of the importance of the economic analysis USEPA and SWRCB should undertake a collaborative process with interested members of the public to revise the economic analysis based on the methodologies and assumptions jointly agreed upon similar to the process recommended by the SWRCB's Economic Consideration Task Force.

Response to: CTR-082-012

See responses to CTR-021-004 and CTR-034-016.

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Comment ID: CTR-096-009

Comment Author: City of Modesto

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01u Economic Consid. Task Force

References:

Attachments? N

CROSS REFERENCES

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Comment: Thank you for the opportunity to comment on the proposed California Toxics Rule. The City's comments are related to five main concepts:

Specifically, the City submits the following comments:

I. Lastly, because of the importance of the economic analysis, EPA and the SWRCB should undertake a collaboration process with interested members of the public to revise the Economic Analysis, based on methodologies and assumptions jointly agreed upon, similar to the process recommended by the SWRCB's Economic Considerations Task Force.

Response to: CTR-096-009

See responses to CTR-021-004 and CTR-034-016.

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Subject Matter Code: E-01v Discharge Over Time

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Comment ID: CTR-034-014d

Comment Author: SCAP

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-01v Discharge Over Time

References: Letter CTR-034 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES E-01g08

E-01b

E-01e

J

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Comment: \* In general, we are pleased that EPA prepared an analysis of the economic impacts of the proposed CTR, and that a major portion of EPA's work focused on determining the potential impacts on POTWs. However, we believe that this analysis is based on improper assumptions and inaccurate cost estimates, resulting in unconvincing conclusions. Detailed comments can be found in Attachment 2. A few of the areas of concern are listed below:

- \* Small facilities appear to be under represented in EPA's sample of POTWS, especially for minor dischargers.
- \* The cost triggers used as regulatory relief thresholds are unrealistic, and are not consistent with EPA regulations and policies.
- \* The assumptions used to determine cost estimates for indirect dischargers appear to omit a large proportion of potentially affected industries.
- \* The Economic Analysis does not take into account projected population and industrial growth over time, which may influence effluent quality and quantity. Statewide, the population is projected to grow by nearly 50% by 2020.
- \* The use of average cost estimates masks economic impacts on individual dischargers, which may be particularly acute for small communities.
- \* The economic Analysis ignores the costs that may be incurred by stormwater dischargers and nonpoint sources to reduce loadings so that CTR criteria may be met in ambient waters.

Response to: CTR-034-014d

See responses to CTR-032-004, CTR-035-061, CTR-021-006b, CTR-040-037, CTR-059-018, and CTR-035-048.

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Comment ID: CTR-059-021

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01v Discharge Over Time

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES

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Comment: Economic Analysis

The Sanitation Districts commends EPA for preparing an analysis of the economic impacts of the proposed CTR, and for selecting POTWs for half of the case studies. We believe that EPA is correct in thinking that POTWs are likely to experience major impacts as a result of the promulgation of the CTR. However, we believe that this analysis is based on improper assumptions and inaccurate cost estimates, resulting in unconvincing conclusions. Our own attainability and cost analysis indicates that there are indeed fundamental flaws in the cost analysis. A few of the areas of concern are listed below:

\* The Economic Analysis does not take into account projected population and industrial growth over time, which may influence effluent quality and quantity. For example, in Los Angeles County the population is projected to grow to nearly 13 million (36%) by 2020.

Response to: CTR-059-021

See response to CTR-035-061.

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Subject Matter Code: E-01w Cost per Facility

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Comment ID: CTR-005-001  
Comment Author: Novato Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/23/97  
Subject Matter Code: E-01w Cost per Facility  
References:  
Attachments? Y  
**CROSS REFERENCES**

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Comment: Dear Ms. Frankel:

The Novato Sanitary District (District) thanks you for the opportunity to comment on the proposed California Toxics Rule (CTR). Unfortunately, we had insufficient time to analyze all aspects of the rule and the supporting economic analysis. This letter summarizes the comments based on our review to date.

As background, the District has two tertiary treatment plants (each with secondary treatment plus nitrification and filtration) which discharge through a common outfall to the shallow waters of San Pablo Bay. As a shallow water discharger, we are not allowed a dilution credit under the current Basin Plan and receiving water criteria are generally incorporated directly into our permit as effluent limits. The District has a population of approximately 57,000 and is basically residential in nature with supporting commercial development. We have no significant industrial dischargers to our system. We have established an aggressive pollution prevention program targeted primarily at copper (corrosion control and vehicle services control programs), and as a result our effluent copper levels have been reduced significantly (from over 50 ug/l several years ago to generally between 10 and 20 ug/l).

Sampling of residential and commercial discharges to our sewer system has established that influent copper levels are equivalent to residential copper levels and that 87% of the copper loading is attributable to tap water (the result of corrosion of copper pipes). The local water agency has already implemented a corrosion control project. Pursuant to the District's request, the agency has increased the pH beyond that required by the lead and copper rule to achieve maximum potential reduction of corrosivity. Our effluent monitoring has for several years employed clean sampling techniques and appropriate QA/QC. In the case of mercury, for example, we have been using Frontier GeoScience, the recognized expert in mercury analysis.

The District has evaluated low-cost alternatives for improving copper removals at the least efficient of our two treatment plants and concluded that addition of chemicals without significant capital improvements would not be effective. The District has further determined that significant improvement in copper removals (although far less than needed to achieve compliance) would require capital improvements of \$2.8 million and total annual costs of \$480,000.

Response to: CTR-005-001

The Navato Sanitary District states that capital improvements of \$2.8 million total and annual costs of \$480,000 would be required for the District to achieve significant copper removal at one of its wastewater treatment plant facilities. Moreover, the district indicates that this investment will not be

sufficient to achieve compliance levels.

Review of the information submitted by the District is not sufficient to determine if the costs estimated by the District are consistent with the estimates obtained for sample facilities of the same industrial category and flow range. The existing permit limit for copper is not indicated in the documentation submitted by the District. Review of the NPDES Permit issued in 1992, which was to expire in 1997, indicates that a final copper permit limit of 2.9 ug/L was to become effective in April 11, 1996. This limit is more stringent than a limit calculated using CTR criteria for a facility with the characteristics of the Novato Sanitary District. Therefore, if the 1992 final permit limit were used to assess existing (baseline) conditions, it is unlikely that the Novato Sanitary District would show any cost as a result of the CTR.

Additionally, the cost estimates submitted by the District seem to be based on compliance with an estimated permit limit of 2.9 ug/L. These costs are included in the amendment request for the copper effluent limit submitted by the District to the California Regional Water Quality Control Board on January 31, 1996. A CTR-based permit limit for a facility with the characteristics of the Novato Sanitary District facility would use a 3.1 ug/L dissolved criteria for copper. Metal translators could also be used to derive permit limits and, if desired, the facility could complete a water effect ratios study which may result in a less stringent limit. For example, based on studies completed by the Regional Board and the City of San Jose (a San Francisco Bay discharger), water effect ratios for the Bay range between 1.7 and 3. Additionally, a metal translator of 3.2 could be calculated based on the U.S. EPA theoretical partitioning coefficient and an assumed total suspended solids (TSS) concentration of 20 mg/L. The resulting permit using CTR criteria and accepted implementation procedures would result in a limit of 16.8 ug/L for copper in comparison to the 2.9 ug/l limit the District used for its cost estimates.

Based on the above considerations, EPA does not believe the District cost estimates are comparable with the estimates obtained for the economic analysis of the CTR.

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Comment ID: CTR-059-022

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01w Cost per Facility

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES

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Comment: Economic Analysis

The Sanitation Districts commends EPA for preparing an analysis of the economic impacts of the proposed CTR, and for selecting POTWs for half of the case studies. We believe that EPA is correct in thinking that POTWs are likely to experience major impacts as a result of the promulgation of the CTR. However, we believe that this analysis is based on improper assumptions and inaccurate cost estimates, resulting in unconvincing conclusions. Our own attainability and cost analysis indicates that there are indeed fundamental flaws in the cost analysis. A few of the areas of concern are listed below:

\* The use of average cost estimates masks economic impacts on individual dischargers.

Response to: CTR-059-022

See response to CTR-035-048.

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Comment ID: CTR-070-002a

Comment Author: Sewerage Agency of Sthrn Marin

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: E-01w Cost per Facility

References:

Attachments? Y

CROSS REFERENCES E-01d01

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Comment: Economic analysis The attached table shows that implementation of the proposed limits will result in the reduction of SASM's copper limit from 37 ug/l to 12 ug/l. It is expected that reverse osmosis will be the most economical method to reach this level and that the cost of this operation will be approximately \$550,000 per year. This equates to a 30% increase in SASM's budget. This cost is also higher than EPA's estimated costs of \$27,000 to \$480,000 per plant per year. It appears that the Economic Analysis underestimates the potential statewide cost and should be revised.

Response to: CTR-070-002a

SASM does not describe their existing treatment processes or provide detailed effluent data, thus EPA is not able to estimate a CTR-based effluent limit or evaluate whether process optimization is a viable alternative to reverse osmosis for controlling copper concentrations. EPA estimated that process optimization would be sufficient for the City of Colton (a secondary treatment wastewater sample facility with 9.9 MGD) to meet its estimated CTR-based limit for copper which require a loading reduction of less than 25%. EPA revised its cost estimates for the final CTR and now estimates that per facility costs for POTWs range from \$61,000 to \$325,000.

See response to CTR-045-012b.

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Comment ID: CTR-081-005a

Comment Author: West County Agency

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01w Cost per Facility

References:

Attachments? N

CROSS REFERENCES E-01d

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Comment: \* Based on the comments at the hearing of September 17, and our own estimates, the EPA's economic analysis has serious flaws and does not reflect the full costs for implementation of the CTR. The comments of the California Association of Sanitation Agencies should be given significant weight in this regard.

\* For example, the WCA plants will not be able to meet the new criteria for copper, lead, and nickel, as well as some organics. This is true even after maximizing source control, pollution prevention, and process control improvements. Both our plants would need additional "end-of-pipe" treatment, such as reverse osmosis.

\* Based on our analysis of the proposed CTR, we will need to implement reverse osmosis in order to meet the requirements of the proposed CTR. Based on this, we estimate that our potential annualized costs for compliance will be \$11,220,000. These costs are significantly higher than EPA's estimated costs per plant of \$27,000 to \$480,000 per year. Thus, we believe strongly that the draft Economic Analysis significantly underestimates the potential statewide costs associated with adoption of the CTR and should be revised.

Response to: CTR-081-005a

EPA disagrees that its Economic Analysis (EA) underestimates costs. West County Agency does not provide the details of their \$11.2 million cost estimate, thus EPA cannot evaluate its validity or conduct its own analysis. Based on EPA's sample of 14 POTWs in California, EPA predicts that the state-wide cost impact on POTWs would range from \$7.8 million to \$41.6 million per year. See the EA for details on the EPA's methodology and costs.

See responses to CTR-056-018, CTR-004-003, and CTR-045-012b.

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Subject Matter Code: E-01y Cost of Efforts to Date

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Comment ID: CTR-092-022c

Comment Author: City of San Jose, California

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-01y Cost of Efforts to Date

References: Letter CTR-092 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES E-01c

E-01b01

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Comment: Comment #6: General Cost Analysis Concerns

The City of San Jose has several generalized concerns about the costs utilized in the Economic Analysis, which raise questions regarding the validity of that analysis, as follows:

Q.6-1) We believe the real point of undertaking the CTR is to assure water quality throughout State that protects beneficial uses. How can the existing Economic Analysis be sufficient if it does not address the cost of meeting the CTR standards from all sources of discharge? Especially given the amount and cost of aggressive intervention in reducing point source pollution undertaken in California to date?

Q.6-2) Throughout the text of the CTR and within the Economic Analysis, EPA refers repeatedly to the assumption that the State will provide regulatory relief to mitigate severe cost impacts engendered by the CTR. What happens to EPA's cost benefit analysis if even one of those assumptions of regulatory relief is not implemented by the State? While we support EPA's attempt to indicate available regulatory options for the State, local level governments and POTW's have little past experience on which to rationalize acceptance of such assumptions.

Q.6-3) EPA has not estimated the cost to local governments/POTW's/indirect dischargers of securing regulatory relief, nor has that cost been incorporated into the estimate of the CTR impact. How would EPA estimate the cost of securing regulatory relief and how would that additional cost affect the Economic Analysis? Especially since very costly studies may be required in order to qualify for regulatory relief.

Q.6-4) The preamble to the CTR discusses the linkage between the CTR and the National Toxics Rule, and EPA's intent to create a level playing field by setting the CTR standards within the National Toxics Rule Framework. There does not seem to have been a similar attempt to analytically level the playing field vis a vis implementation costs, however, as no indexing or calibration has been undertaken to account for the cumulative costs of efforts to date (see also Q. 4-3), cost equivalency data is rooted in experience outside California, and simple average costs are used to represent widely variable ranges. How would the CTR cost/benefit relationship be affected by adjusting for California's significant previous efforts on water quality control mechanisms and California cost data?

Response to: CTR-092-022c

See responses to CTR-032-004, CTR-060-019, CTR-004-003, CTR-035-048, and CTR-092-022a.

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Comment ID: CTRH-002-018  
Comment Author: Ing-Yig Cheng  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: L.A. Bureau of Sanitation  
Document Date: 09/18/97  
Subject Matter Code: E-01y Cost of Efforts to Date  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: DR. CHENG: Hi. My name is Ing-Yih Cheng. I'm here today representing the City of Los Angeles, Department of Public Works, Bureau of Sanitation. City of Los Angeles has three treatment plans that are being affected by CTR. They are Tillman Water Reclamation Plant, Los Angeles-Glendale Water Reclamation Plant, and the Terminal Island Treatment Plant. We appreciate the opportunity to testify on the proposed CTR. We have three issues to briefly address because of time limitations, and a more detailed written comment will be forthcoming.

The first and foremost issue concerns with the economic analysis that you have performed on the Tillman plant. When the State Inland Surface Water Plan came out in 1991, the City conducted probable cause assessment for the Tillman plant. The study was completed in April 1992 after a new ISWP-based NPDES permit had been issued. A comparison between this detailed study and EPA economic analysis showed that your economic analysis underestimated the cost required for compliance by orders of magnitude. And the reason for this is because EPA's EA compared CTR to essentially ISWP requirements, since the NPDES permit limits reflect ISWP limits criteria. This is inherently unfair because it ignores treatment costs for those constituents that we are yet to be in full compliance with. We have discussed this matter with our attorney who has advised us to exhaust all legal remedies and hold EPA to the requirement that it prepare a legally defensible economic analysis. We will be glad to make details of our cost estimates available to you, if you like. And on the basis of this comment for one plant alone, we object to EPA's finding that CTR is not a significant rulemaking.

Response to: CTRH-002-018

See responses CTR-021-005c and CTR-035-058.

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Subject Matter Code: E-02 Benefits Analysis

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Comment ID: CTR-034-015

Comment Author: SCAP

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02 Benefits Analysis

References: Letter CTR-034 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES

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Comment: \* The Economic Analysis presents a very weak analysis of potential benefits, which is based on limited information about ambient water quality conditions. Due to this weakness, combined with the paucity of information in the literature regarding the benefits from marginal improvements in water quality, the benefits analysis does a poor job of evaluating the marginal benefits that would result from the implementation of the CTR.

\* The Economic Analysis suggests that reductions attributable to point source reductions may be de minimis. For instance, most of the public health benefits appear to be associated with a small number of contaminants, most of which are not discharged in significant quantities by point source dischargers. Cancer risks, for example are dominated by four contaminants, two of which - DDT and PCBs - are probably more the result of historic loadings than due to ongoing point source inputs.

Response to: CTR-034-015

Water quality improvements often involve thresholds such as action levels for fish consumption advisories. However, water quality regulations often contribute only a portion of the improvement needed to surpass a threshold. Although individuals may (or may not) have a willingness to pay for incremental steps toward crossing a threshold, when the threshold is surpassed (e.g., fish consumption advisories are lifted), every action that contributed to the effort should be allocated a portion of the benefits. This was accomplished for the CTR by allocating a portion of the total toxic-free benefits (proportional to the reduction in loadings) to the implementation of point source controls under the CTR.

EPA analyzed potential reductions for over forty toxic pollutants that may be discharged by point sources. EPA expects that reductions in these toxics will lead to a variety of benefits including ecological, health, and recreational benefits. Although certain health risks such as cancer are indeed dominated by only a few toxic contaminants that may not be greatly reduced by point source controls, reductions of these toxics are, nevertheless, expected to yield reductions in cancer cases as well as systemic health risks. EPA expects the annual reduction in cancer cases among recreational anglers after implementation of the CTR to range from 0.0 to 0.1 for San Francisco Bay and 0.0 to 0.8 for freshwater resources. EPA also analyzed the post-CTR hazard quotients (HQ) for systemic risks among recreational anglers with high consumption rates. The HQ for PCBs may be reduced from 11.31 to 5.44 for San Francisco Bay anglers and from 7.02 to 3.28 for freshwater anglers.

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Comment ID: CTR-035-071

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-02 Benefits Analysis  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: \* As indicated in Table Two, much of the benefit estimates are based on little or no empirical data.

Table Two Benefit Areas with Little or No Empirical Foundation Variable/Issue Empirical Evidence

\*\*\*\*\*

"Water quality conditions in many State waters have not been fully assessed, and assessments of waters that have been evaluated often do not contain monitoring data that is extensive or detailed enough to determine whether the waterbody meets all of the proposed criteria." (U.S. EPA, 1997d, page 1-5)

In many cases there is limited information about water quality conditions, and as a result the need for, and benefits associated with, pollution reductions is substantially unknown.

\*\*\*\*\*

"EPA found no available studies of the value to California anglers of reducing toxic contamination in surface waters." (U.S. EPA, 1997a, page ES-12).

Fishing-related benefits are based on a single out of-state report which estimated "...the value of reducing toxic contaminants in a popular boat fishery that has experienced widespread and highly publicized contamination and fish consumption advisories" (U.S. EPA, 1997a, page 8-17). This analysis most likely bears little or no relation to California conditions, and should not be used as the sole basis for benefits estimation.

\*\*\*\*\*

Assumes that the proposed rules will result in "appreciable" increases in water- and land-related recreation apart from fishing.

No evidence is presented that boaters, swimmers, hunters or others will increase their use of California's resources because of a marginal change in pollutant load.

\*\*\*\*\*

Assumes the rule would likely engender some "passive use" benefits.

Passive use benefits estimates are based on a 13-year old analysis which may bear little relevance to the Rule. The supporting data for this benefit category is so poor as to forgo any quantification of it.

\*\*\*\*\*

Uses effluent concentration data from the Sacramento County POTW to analyze freshwater resources.

"...may not be representative of effluent from other facilities" (U.S. EPA, 1997a, page 7-6).

\*\*\*\*\*

Assumes San Francisco Bay discharges have not changed over the last decade.

The Analysis is based on ten-year old data which may not be representative of current conditions.

\*\*\*\*\*

"Reductions in toxics may contribute to improved conditions for the successful recovery of federal and State threatened and endangered species..."

No evidence is provided supporting this claim.

\*\*\*\*\*

Assumes relative point/non-point source contribution to particular contaminants based on limited data.

"None of the data sources ... definitely estimates the relative point source contribution of PCBS, dioxin, pesticides, or mercury..." (U.S. EPA, 1997d, page 7-32).

\*\*\*\*\*

Response to: CTR-035-071

EPA defined toxic-impaired waters as waters rated medium or poor quality for at least one or more toxic pollutant or group of pollutants. EPA acknowledged that this definition may result in an overestimate of toxic-impairment (EA Chapter 8). However, the rating of these waters corresponds to EPA's categories of 'not fully supporting' and 'partially supporting' designated uses. The existence of waters not supporting and only partially supporting designated uses is indicative of the need for and benefits associated with pollution controls.

EPA considers Lyke's scenario (waters completely free of contaminants that may threaten human health) to be similar to a scenario in which all California waters meet the water quality standards established by the CTR. EPA has no information to show that these standards cannot be achieved. Thus, EPA used Lyke's results to estimate the total potential benefits of achieving standards. However, since point source controls alone may not be sufficient to achieve the standards throughout California, EPA allocated only a portion of the total benefits to the CTR.

EPA agrees that the study site for Lyke's research is substantially different from California waters. However, EPA's search of the literature indicated that there is no similar research for California or other more similar waters. Therefore, EPA applied Lyke's results to provide decisionmakers with information on the types and potential magnitude of the benefits from water quality improvements, rather than leaving this important benefit category unmonetized. EPA has no information to determine whether California residents may value toxic-free waters more or less than Wisconsin residents.

In addition, EPA believes that Lyke's scenario does not capture another component of potential value to current anglers that may result as reduced levels of toxic pollutants result in healthier sport fish populations. Lyke's survey asked anglers to consider a fishery that is free of contaminants that may threaten human health. However, fish are more sensitive than humans to some classes of toxic pollutants and fish populations may increase as contamination is reduced. To the extent that reducing toxic contamination results in a more satisfying angling experience in terms of increasing catch rates, achieving water quality standards may result in an increase in value to current anglers beyond that associated with reducing human health concerns.

EPA did not include values for water- and land-related benefits other than fishing, but noted that potential benefits may be underestimated because these benefit categories are not included. As described in the EA (Chapter 8), EPA believes that these benefits may be appreciable because such recreational activities (e.g., boating, swimming, picnicking, and related activities) have been shown in empirical research to be highly valued, and even modest changes in participation or user values could lead to sizable benefits statewide. Some of these activities can be closely associated with water quality attributes (e.g., swimming) and others might increase due to their association with fishing, swimming, or other activities in which the participants might engage.

As described in the EA (Chapter 8), research provides empirical evidence of the passive use values associated with improved water quality and fisheries. Research also indicates that these values are at least half as great as recreational values, such that if they are potentially applicable to a policy action, providing a rough approximation is preferable, with proper caveats, to omitting them from the analysis of benefits and costs. EPA believes that the studies used to calculate the ratio of passive use to use value are applicable to the CTR (see also comment and response CTR-026-009). Therefore, EPA applies a ratio of 0.5 to obtain an estimate of passive use values for households with active recreational anglers. Based on a review of the literature, EPA believes that non-angling households do indeed have a passive use value. To determine a lower-bound estimate of passive use values for non-angling households, EPA assumed that the value may be 30% of the value for angling households. For analysis of the final CTR, EPA revised the upper-bound estimate assuming that the passive use value of non-angling households may be 90% of those for angling households. This revision is based on a study by Loomis et al. (1991), who estimated the benefits of improved fishery, wetland, and waterfowl resources in the San Joaquin Valley to users and nonusers residing in California.

By multiplying a ratio of passive use to use value by recreational fishing values, which EPA apportioned to reflect the relative contribution of point sources, EPA also accounted for attribution in its estimate of passive use values.

For the EA that accompanied the proposal, EPA conducted an extensive search of the literature for more recent data or information related to the relative contributions of various sources to water quality impairments. In the EA accompanying the proposal, EPA solicited additional data, however, none was received. In revising the EA for the final rulemaking, EPA conducted an additional extensive search of the literature and research efforts at California universities for relevant information. EPA has incorporated any new information into the revised EA for the final rule.

EPA provided a qualitative description of the potential impacts of toxics on ecological resources and the potential benefits from reducing toxic loadings to the state's water resources (see Chapter 6 of the EA that accompanied the proposed rule). As stated in that chapter, EPA performed a qualitative assessment of the ecologic benefits of the proposed rule (IEC, 1996), rather than a contaminant-specific quantitative

assessment of the magnitude and extent of benefits accruing for each affected aquatic system. However, without performing a complete quantitative analysis, EPA concluded that potential ecologic benefits from implementation of the CTR may include:

- \* Reductions in toxics loadings are expected to contribute to improved conditions for California fish spawning and/or migration in bays/harbors and estuaries, lakes, rivers and streams, and saline lakes.
- \* Reductions in bioaccumulative chemicals of concern that may currently affect fish and wildlife throughout the state, including selenium, mercury, PCBs, dioxins, and chlorinated pesticides.
- \* Reductions in toxics may contribute to improved conditions for the successful recovery of federal and State threatened and endangered species, such as the delta smelt, desert pupfish, California brown pelican, bald eagle, California clapper rail, California tiger salamander, and western snowy plover.
- \* Reductions in toxics may reduce adverse toxics-related impacts on aquatic and terrestrial wildlife in two important areas of California: the San Francisco Bay watershed and the Central Valley (see Case Studies in [U.S. EPA, 1997]).
- \* Reductions in the concentrations of both selenium and pesticides in the waters that feed the Salton Sea may contribute to improved conditions for the restoration and maintenance of currently declining populations of wildlife, including threatened and endangered species such as the California brown pelican, peregrine falcon, bald eagle, Yuma clapper rail, and desert pupfish (see Case Studies in [U.S. EPA, 1997]).
- \* Improved water quality and associated improvements in survival, growth, and reproductive capacity of aquatic and aquatic-dependent organisms may contribute to the increased stability, resilience, and overall health of numerous ecosystems throughout California, and may contribute to protecting, restoring, and maintaining California's ecological diversity.

EPA used ranges to address the uncertainty in the relative point source contribution of different contaminants. These ranges were based on toxic-weighted pollutant loads so that the results could not be driven by pollutants with little impact on the environment or public health. EPA also solicited additional or updated data and information on this issue in the EA but did not receive any. In revising the EA for the final rulemaking, EPA conducted an additional extensive search of the literature and research efforts at California universities for relevant information. EPA has incorporated any new information into the revised EA for the final rule.

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Comment ID: CTR-035-072  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-02 Benefits Analysis  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: \* Likewise, as indicated in Table Three, the benefits analysis is based on a number of assumptions which may act to overstate benefits.

Table Three Other Major Technical Assumptions Which Could Affect Benefits Estimates

Assumptions Potential Impact on Analysis

\*\*\*\*\*

"The benefits estimates in this report represent the total benefits expected to occur once water quality control programs have been fully implemented by California and water quality criteria have been achieved for toxic pollutants." (U.S. EPA, 1997d, page 1-8)

Cost analysis explicitly includes exemptions (cost thresholds) to rule attainment. Likewise, non-point sources are excluded. Both of these factors indicate that water quality criteria will not be achieved, and certainly not at the estimated cost.

\*\*\*\*\*

Assumes anglers are aware of toxic contamination in waters that have no fish consumption advisories.

No empirical evidence provided on behavioral responses, if any, to actual or perceived public health concerns.

\*\*\*\*\*

Assumes "potential benefits for all California waters affected by toxics, not just those waters under fishing consumption advisories" (U.S. EPA, 1997a, page 8-17).

May overstate benefits related to point source reductions, as most of the fishing contaminants are related to non-point sources.

\*\*\*\*\*

Assumes little substitution among fishing sites.

Estimates of the value of increased fishing participation most likely overstates angler behavior as a result of substitution between fishing sites.

\*\*\*\*\*

Assumes one-to-one benefit from reduction in toxics.

Other factors (e.g., habitat alteration) may pose more serious threats to the environment, and partially negate rule benefits. For example, complete reductions in point source pollution is meaningless if the water body's habitat has been substantially disturbed by development.

\*\*\*\*\*

Response to: CTR-035-072

The commenter is referring to the estimate of total potential benefits in the analysis of benefits document. In EPA's EA for the proposed (and final) rule, only the portion of benefits expected to be achieved by implementing controls on point source dischargers are counted. EPA recognizes that the proposed standards will not be achieved in some cases by controlling point sources alone. EPA's assumptions regarding the attribution of benefits to the rule are described in the EA for the proposed rule in Chapter 7.

EPA's analysis presents only the portion of the total potential benefits that can be achieved by controlling point sources. EPA expects additional benefits will accrue as a result of controlling other sources. EPA has no reason to believe that the standards established by the CTR cannot be achieved.

EPA acknowledges that applying Lyke's results to all California waters affected by toxics may overstate potential benefits (see EA Chapter 8). Anglers may or may not be aware of toxic contamination in the absence of fish consumption advisories. EPA acknowledges the limitations in the application of Lyke's research. However, EPA chose this approach to provide illustration of the potential magnitude of recreational angling values rather than leave this important benefit category unmonetized.

In addition, EPA believes that Lyke's scenario does not capture another component of potential value to current anglers that may result as reduced levels of toxic pollutants result in healthier sport fish populations. Lyke's survey asked anglers to consider a fishery that is free of contaminants that may threaten human health. However, fish are more sensitive than humans to some classes of toxic pollutants and fish populations may increase as contamination is reduced. To the extent that reducing toxic contamination results in a more satisfying angling experience in terms of increasing catch rates, achieving water quality standards may result in an increase in value to current anglers beyond that associated with reducing human health concerns.

EPA first applied Lyke's research in its analysis of the potential benefits of the Great Lakes Water Quality Guidance. Calculation of the range of results is explained in U.S. EPA (1993). Lyke estimated the Wisconsin Great Lakes open water sport fishery to be worth between \$339 and \$424 per licensed angler, resulting in an estimated consumer surplus associated with the fishery of between \$66.6 million and \$83.3 million annually. Lyke obtained values for a contaminant-free fishery ranging from \$7.4 million to \$26.1 million per year, with the range in results attributable to whether a linear or constant elasticity of scale functional form is used in the estimation. These results reflect between 11.1% and 31.3% of the value of the fishery under current conditions, which is the range of values EPA used in analysis of the CTR.

EPA acknowledges that Lyke-based benefits represent a substantial portion of total benefits and supports these benefits estimates. (See also comment and response to CTR-035-009a.)

U.S. EPA, 1993. Regulatory Impact Analysis of the Proposed Great Lakes Water Quality Guidance. Final Report, April 15.

Behavioral responses to public health concerns and pollution have been documented in the literature. For example, as shown in the table below, anglers in the Great Lakes region report taking fewer fishing trips, changing fishing locations, and changing cooking methods in response to fish consumption advisories. EPA revised its analysis to include this information.

## References

Fiore, B.J., H.A. Anderson, L.P. Hanrahan, L.J. Olson, and W.C. Sonzogni. 1989. Sport Fish Consumption and Body Burden Levels of Chlorinated Hydrocarbons: A Study of Wisconsin Anglers.

Archives of Environmental Health. 44(2):82-88.

Knuth, B.A. and N.A. Connelly, and M.Z. Shapiro. 1993. Angler Attitudes and Behavior Associated with Ohio River Health Advisories. Prepared by the Human Dimensions Behavior Research Unit of the Department of Natural Resources of the New York State College of Agriculture and Life Sciences. HDRU Series No. 93-6. July. 163 pp.

Knuth, B.A. and N.A. Connelly. 1992. Is New York's Health Advisory on Fish Consumption Making a Difference? Coastlines. 22(4):4-5.

Silverman, W.M. 1990. Michigan's Sport Fish Consumption Advisory: A Study in Risk Communication. Thesis. University of Michigan, Ann Arbor. May. 103 pp.

Vena, J.E. 1992. Risk Perception, Reproductive Health Risk and Consumption of Contaminated Fish in a Cohort of New York State Anglers. Research Program in Occupational and Environmental Health, State University of New York at Buffalo. 67 pp.

West, P.C., J.M. Fly, R. Marans, F. Larkin, and D. Rosenblatt. 1993. 1991-92 Michigan Sport Anglers Fish Consumption Study. Executive Summary. University of Michigan, Natural Resource Sociology Lab. Technical Report #6. Ann Arbor, Michigan.

#### Behavioral Responses of Anglers to Fish Consumption Advisories

Study	Location	Reported Behavioral Response
Fiore et al. (1989)	Lake Michigan and Green Bay, Wisconsin	57% Reported changing fishing habits and/or fish consumption
Knuth, Connelly, and Shapiro (1993)	Ohio River	37% Took fewer trips 26% Changed fishing locations 26% Changed species sought 22% Changed cleaning methods 17% Changed size of fish consumed 13% Changed cooking methods
Vena (1992)	Lake Ontario, New York	53% Ate less fish 31% Changed preparation methods 30% Changed fishing locations 20% Changed species sought 16% No longer ate fish 16% Took fewer trips
Silverman (1990)	Lake St. Clair Detroit River Lake Erie	56% Ate less fish 56% Changed cleaning methods 41% Ate smaller fish 31% Changed fishing locations 31% Ate different species

28% Changed cooking methods  
21% Fished for different  
species  
10% Took fewer fishing trips

Knuth and Connelly    New York            70% Ate less fish  
(1992)                            40% Cooked fish differently  
   17% No longer ate sport caught  
   fish

West et al. (1993)    Michigan            86% Cooked fish differently  
   (Great Lakes anglers)  
   80% Ate less fish (Great Lakes  
   anglers)  
   75% Cleaned fish differently  
   46% Ate less fish (overall)  
   27% Cooked fish differently  
   (overall)

Although the standards established by the CTR apply to the waterbody (i.e., inland surface waters and enclosed bays and estuaries) EPA's analysis examined only the portion of benefits expected to be achieved by controlling point sources. EPA estimated the point source share of benefits based on data and information on the relative contribution of all sources to toxic loadings in California waters. Although point sources may account for only a small portion of the load in some waters, they may account for relatively larger portions at some sites, and point source controls will contribute to meeting standards in the water bodies.

EPA acknowledged that increased angling activity at sites experiencing reductions in toxic contaminants may reflect a shift in activity from substitute sites rather than a net increase. Because EPA could not account for substitute sites in this analysis, EPA estimated lower bound benefits of \$0 (i.e., assuming no net increases in activity; see EA, Chapter 8).

EPA believes that where appropriate habitat, species, and other conditions exist, yet waters are impaired by toxic pollutants, the standards established by the CTR will result in attaining designated uses. At sites where designated uses are also impaired by factors such as habitat alteration, exotic species, or inadequate flows, these conditions may have to be corrected to fully attain the use. Notwithstanding, even if a receiving water does not fully attain its use because of other factors, this does not justify further degrading the water body by failing to reduce loadings of toxic pollutants.

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Comment Author: County of Sacramento Water Div  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-02 Benefits Analysis  
References: Letter CTR-040 incorporates by reference letter CTR-027  
Attachments? Y

## CROSS REFERENCES

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Comment: ATTACHMENT: 3 - 2 A Criteria Review of: "Discrete Choice Models to Value Changes in Environmental Quality: A Great Lakes Case Study"(\*1)

**Introduction** This dissertation is primarily concerned with examining economic models of natural resource valuation. Specifically, two models were examined, the travel cost method and the contingent valuation method. The main purpose of this dissertation was to apply these probabilistic choice models to a new data set and examine their performance against one another. In this study, the main use of contingent valuation modeling is to provide alternative value estimates for comparison to the values produced by the travel cost model. The data set examined consisted of two sets of surveys completed by a total of 513 anglers in Wisconsin. One set of surveys examined Wisconsin anglers who fished for trout and salmon in the Great Lakes (274 respondents), while the second set examined those who fished for trout and salmon in inland waters other than the Great Lakes (239 respondents). The primary concern of this critique lies in the application of some of Lyke's findings to the benefits analysis of EPA's California Toxics Rule(\*2). Specifically, EPA uses Lyke's results in calculating the potential benefits accrued by California fisheries attributable to the implementation of the California Toxics Rule.

**The Models** Two models are used in analyzing the data. The first is the travel cost model which links travel costs and fishing success to angler decisions of where to fish. The second model is from a class of questioning methods known as contingent valuation. The travel model estimates non-market value from observable behavior (e.g. distance traveled to fishing sites) while the contingent valuation method simply measures attitudes (the willingness to pay to use a fishing site) not economic behavior per se. This critique is primarily concerned with the contingent valuation questions found in the surveys. These questions measured respondents valuation of their fishing experience (a valuation of the fishery) in relation to toxic contamination. The responses to these questions provide the basis for EPA's valuation of the improved fishing experience for California anglers after implementation of the California Toxics Rule.

**Sample Design Data** The contingent valuation model data are taken from two mail surveys of anglers who held fishing licenses in 1988 and fished in 1989. This study only examined the behavior and views of anglers who fish for trout and salmon. Millions of trout and salmon are planted in Wisconsin waters annually and catching them is a popular pastime. However, most of these fish are hatchery raised and as such represent a major expense for the state fisheries agency. To help defray these costs, the state requires a special trout and salmon stamp on the licenses of anglers who catch these fish. This added cost might deter some anglers, who then would not be in the "angler population" examined in this study. Also, since anglers who fish primarily for trout and salmon are willing to pay more to catch these prized gamefish, they may be more conscientious in returning questionnaires than "typical" anglers. Both these factors may cause overestimates of fisheries value in this study. This critique is primarily concerned with the data provided by Wisconsin anglers who were identified as having fished the Great Lakes for trout and salmon in 1989. This set consisted of 274 useable questionnaires (out of a possible 368 anglers).

**Results** Contingent valuation results were generated from responses to direct questions about the value of a given resource (in this case the Great Lakes sport fisheries). The contingent valuation models are applied to value the Wisconsin Great Lakes sport fisheries under current conditions as well as for hypothetical scenarios where contaminants are removed from the fishery and where native lake trout populations are rehabilitated. There is no travel cost model alternative to measuring these values. Lyke determined that the current value (in 1989 dollars) of the Great Lakes Fishery was \$339.43/angler/year (with a standard error of \$53.17). The value of a hypothetically "contaminant free" fishery to anglers

was \$377.18/angler/year (with a standard error of \$64.60). These values can be found in Table 15 (pg. 169) of Lyke's dissertation. It appears that EPA uses these values to estimate the potential increase in value to California fisheries with the implementation of the California Toxics Rule. EPA estimates an 11.1 percent to 31.3 percent increase in value to fisheries following the application of the California Toxics Rule and the subsequent elimination of toxicants from affected waterbodies. These estimated increases appear to be drawn from the values presented by Lyke. There is an 11.1 percent increase in worth when the mean value of current conditions are compared to the mean value of the hypothetical "contaminant free" conditions. There is a 31.8 percent increase in worth when the lower end (mean value minus the standard error) of the value for current conditions is compared to the mean value of the "contaminant free" conditions.

#### Conclusions:

- 1.) There is a lack of data on the value anglers in California place upon reducing toxic contamination to fisheries, so EPA used the increase in values produced by Lyke's model. However, the increases in value which Lyke shows are based on the responses of 274 individual anglers to only two contingent valuation questions in a mail survey containing a total of 64 questions. This is clearly a very small sample of the population of Wisconsin anglers and may have caused some bias in the analysis. This was probably a representative sample of anglers but not a random sample of anglers.
- 2.) Only anglers who fished for trout and salmon in the Wisconsin Great Lakes were surveyed. These anglers may not be representative of the typical Wisconsin Great Lakes angler, and this data does not show any valuation for any fishery other than trout and salmon.
- 3.) It is not clear how EPA derived the upper limit of their potential increase in fisheries value (31.3 percent). It is possible that EPA used the "contaminant free" mean (\$377.18/angler/year) and compared that to the low end value (mean minus the standard error) of the value of the fishery under current conditions (\$286.26/angler/year), yielding an increase in value of 31.8 percent. Another portion of Lyke's analysis actually shows "contaminant free" fisheries to be valued lower than the current "contaminated" fishery. Inland fishing anglers who fish for trout and salmon were less willing to pay for a contaminant free fishery. The mean value of the inland fishery under current conditions (\$720.12/angler/year) compared to the mean value of a "contaminant free" inland fishery (\$597.42/angler/year) yields a loss in value of 17 percent.
- 4.) There is no evidence that any portion of Lyke's dissertation has undergone peer review outside the University of Wisconsin-Madison. An extensive literature search found no peer reviewed journal publications by the author. Without proper peer review, its methods and conclusions must remain in doubt.
- 5.) The degree and extent to which individual Great Lakes fishing sites and fisheries are contaminated by toxicants was not considered in this study. Therefore, it is unclear how well the study's findings can be applied to "contaminated" fisheries in California.
- 6.) Contingent valuation measures the attitudes of anglers, not their behavior. More specifically, it measures an anglers stated willingness to pay or compensate, not the actual behavior of paying or compensating.

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(\*1) Lyke, Audrey J., Dissertation submitted to the Graduate School of the University of Wisconsin-Madison, 1993.

(\*2) U.S. EPA Analysis of the Potential Benefits Related to Implementation of the California Toxics Rule. June 1997.

Response to: CTR-040-052

EPA acknowledges that Lyke's study has not been published in a peer reviewed journal and that she obtained some inconsistent results. EPA applied Lyke's research to illustrate the types and potential magnitude of the benefits from water quality improvements. EPA conducted an extensive search of the literature for additional studies that provide indication of the potential magnitude of the benefits from reducing concentrations of toxic pollutants in California surface waters. The results of EPA's search are described in the EA that accompanies the final rule.

EPA acknowledges that applying Lyke's results to all California waters affected by toxics may overstate potential benefits (see EA p. 8-17). Anglers may or may not be aware of toxic contamination in the absence of fish consumption advisories. EPA acknowledges the limitations in the application of Lyke's research. However, EPA chose this approach to provide illustration of the potential magnitude of recreational angling values rather than leave this important benefit category unmonetized.

In addition, EPA believes that Lyke's scenario does not capture another component of potential value to current anglers that may result as reduced levels of toxic pollutants result in healthier sport fish populations. Lyke's survey asked anglers to consider a fishery that is free of contaminants that may threaten human health. However, fish are more sensitive than humans to some classes of toxic pollutants and fish populations may increase as contamination is reduced. To the extent that reducing toxic contamination results in a more satisfying angling experience in terms of increasing catch rates, achieving water quality standards may result in an increase in value to current anglers beyond that associated with reducing human health concerns.

EPA first applied Lyke's research in its analysis of the potential benefits of the Great Lakes Water Quality Guidance. Calculation of the range of results is explained in U.S. EPA (1993). Lyke estimated the Wisconsin Great Lakes open water sport fishery to be worth between \$339 and \$424 per licensed angler, resulting in an estimated consumer surplus associated with the fishery of between \$66.6 million and \$83.3 million annually. Lyke obtained values for a contaminant-free fishery ranging from \$7.4 million to \$26.1 million per year, with the range in results attributable to whether a linear or constant elasticity of scale functional form is used in the estimation. These results reflect between 11.1% and 31.3% of the value of the fishery under current conditions, which is the range of values EPA used in analysis of the CTR.

EPA acknowledges that Lyke-based benefits represent a substantial portion of total benefits and supports these benefits estimates. (See also comment and response to Issue 3.)

U.S. EPA, 1993. Regulatory Impact Analysis of the Proposed Great Lakes Water Quality Guidance. Final Report, April 15.

EPA considers Lyke's scenario (waters completely free of contaminants that may threaten human health) to be similar to a scenario in which all California waters meet the water quality standards established by the CTR. EPA has no information to show that these standards cannot be achieved. Thus, EPA used Lyke's results to estimate the total potential benefits of achieving standards. However, since point source controls alone may not be sufficient to achieve the standards throughout California, EPA allocated only a portion of the total benefits to the CTR.

EPA agrees that the study site for Lyke's research is substantially different from California waters. However, EPA's search of the literature indicated that there is no similar research for California or other more similar waters. Therefore, EPA applied Lyke's results to provide decisionmakers with information on the types and potential magnitude of the benefits from water quality improvements, rather than leaving this important benefit category unmonetized. EPA has no information to determine whether California residents may value toxic-free waters more or less than Wisconsin residents.

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EPA agrees that the contingent valuation method (CVM) elicits an individual's stated willingness to pay or accept compensation. The benefit-cost comparisons in EAs are prepared to inform the public and policy makers. Thus, the strengths and weaknesses of all aspects of the EA, including methodologies for estimating benefits, need to be made clear so that readers are aware of the limits and uncertainties. However, a 1993 Blue Ribbon Panel convened by the National Oceanic and Atmospheric Administration (NOAA) evaluated CVM and found it to be an appropriate methodology for measuring values. It is also the only method accepted by the U.S. Department of the Interior (DOI) to estimate nonuse values and has withstood Federal Court review for its use in litigation contexts.

Additionally, much of the criticism of CVM is conceptual rather than based on empirical research. Where CVM can be compared to other research techniques (e.g., use values estimated by the travel cost methodology or the hedonic price method), CVM is shown to yield similar values (see Brookshire et al., 1982 and Smith et al., 1986). Additionally, in several field experiments, actual purchase decisions were compared to hypothetical purchase decisions (Bishop and Heberlein, 1978 and Dickie et al., 1987). In all of these studies, hypothetical behavior was sufficiently predictive of actual behavior that researchers concluded meaningful values could be obtained for benefit-cost analysis or damage assessment.

Bishop, R.C. and T.A. Heberlein. 1978. Measuring values of extra-market goods: Are indirect measures biased? *American Journal of Agricultural Economics* 61(5): 926-930.

Brookshire, D., M. Thayer, W.D. Schulze, and R. d'Arge. 1982. Valuing public goods: A comparison of the survey and hedonic approaches. *American Economic Review* 72(1): 165-177.

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Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
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References:

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## CROSS REFERENCES

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Comment: ATTACHMENT: B - 2 A Criteria Review of: "Discrete Choice Models to Value Changes in Environmental Quality: A Great Lakes Case Study"(\*1)

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(with a standard error of \$53.17). The value of a hypothetically "contaminant free" fishery to anglers was \$377.18/angler/year (with a standard error of \$64.60). These values can be found in Table 15 (pg. 169) of Lyke's dissertation. It appears that EPA uses these values to estimate the potential increase in value to California fisheries with the implementation of the California Toxics Rule. EPA estimates an 11.1 percent to 31.3 percent increase in value to fisheries following the application of the California Toxics Rule and the subsequent elimination of toxicants from affected waterbodies. These estimated increases appear to be drawn from the values presented by Lyke. There is an 11.1 percent increase in worth when the mean value of current conditions are compared to the mean value of the hypothetical "contaminant free" conditions. There is a 31.8 percent increase in worth when the lower end (mean value minus the standard error) of the value for current conditions is compared to the mean value of the "contaminant free" conditions.

#### Conclusions:

- 1.) There is a lack of data on the value anglers in California place upon reducing toxic contamination to fisheries, so EPA used the increase in values produced by Lyke's model. However, the increases in value which Lyke shows are based on the responses of 274 individual anglers to only two contingent valuation questions in a mail survey containing a total of 64 questions. This is clearly a very small sample of the population of Wisconsin anglers and may have caused some bias in the analysis. This was probably a representative sample of anglers but not a random sample of anglers.
- 2.) Only anglers who fished for trout and salmon in the Wisconsin Great Lakes were surveyed. These anglers may not be representative of the typical Wisconsin Great Lakes angler, and this data does not show any valuation for any fishery other than trout and salmon.
- 3.) It is not clear how EPA derived the upper limit of their potential increase in fisheries value (31.3 percent). It is possible that EPA used the "contaminant free" mean (\$377.18/angler/year) and compared that to the low end value (mean minus the standard error) of the value of the fishery under current conditions (\$286.26/angler/year), yielding an increase in value of 31.8 percent. Another portion of Lyke's analysis actually shows "contaminant free" fisheries to be valued lower than the current "contaminated" fishery. Inland fishing anglers who fish for trout and salmon were less willing to pay for a contaminant free fishery. The mean value of the inland fishery under current conditions (\$720.12/angler/year) compared to the mean value of a "contaminant free" inland fishery (\$597.42/angler/year) yields a loss in value of 17 percent.
- 4.) There is no evidence that any portion of Lyke's dissertation has undergone peer review outside the University of Wisconsin-Madison. An extensive literature search found no peer reviewed journal publications by the author. Without proper peer review, its methods and conclusions must remain in doubt.
- 5.) The degree and extent to which individual Great Lakes fishing sites and fisheries are contaminated by toxicants was not considered in this study. Therefore, it is unclear how well the study's findings can be applied to "contaminated" fisheries in California.
- 6.) Contingent valuation measures the attitudes of anglers, not their behavior. More specifically, it measures an anglers stated willingness to pay or compensate, not the actual behavior of paying or compensating.

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(\*1) Lyke, Audrey J., Dissertation submitted to the Graduate School of the University of

Wisconsin-Madison, 1993.

(\*2) U.S. EPA Analysis of the Potential Benefits Related to Implementation of the California Toxics Rule. June 1997.

Response to: CTR-041-048

EPA acknowledges that Lyke's study has not been published in a peer reviewed journal and that she obtained some inconsistent results. EPA applied Lyke's research to illustrate the types and potential magnitude of the benefits from water quality improvements. EPA conducted an extensive search of the literature for additional studies that provide indication of the potential magnitude of the benefits from reducing concentrations of toxic pollutants in California surface waters. The results of EPA's search are described in the EA that accompanies the final rule.

EPA acknowledges that applying Lyke's results to all California waters affected by toxics may overstate potential benefits (see EA Chapter 8). Anglers may or may not be aware of toxic contamination in the absence of fish consumption advisories. EPA acknowledges the limitations in the application of Lyke's research. However, EPA chose this approach to provide illustration of the potential magnitude of recreational angling values rather than leave this important benefit category unmonetized.

In addition, EPA believes that Lyke's scenario does not capture another component of potential value to current anglers that may result as reduced levels of toxic pollutants result in healthier sport fish populations. Lyke's survey asked anglers to consider a fishery that is free of contaminants that may threaten human health. However, fish are more sensitive than humans to some classes of toxic pollutants and fish populations may increase as contamination is reduced. To the extent that reducing toxic contamination results in a more satisfying angling experience in terms of increasing catch rates, achieving water quality standards may result in an increase in value to current anglers beyond that associated with reducing human health concerns.

EPA first applied Lyke's research in its analysis of the potential benefits of the Great Lakes Water Quality Guidance. Calculation of the range of results is explained in U.S. EPA (1993). Lyke estimated the Wisconsin Great Lakes open water sport fishery to be worth between \$339 and \$424 per licensed angler, resulting in an estimated consumer surplus associated with the fishery of between \$66.6 million and \$83.3 million annually. Lyke obtained values for a contaminant-free fishery ranging from \$7.4 million to \$26.1 million per year, with the range in results attributable to whether a linear or constant elasticity of scale functional form is used in the estimation. These results reflect between 11.1% and 31.3% of the value of the fishery under current conditions, which is the range of values EPA used in analysis of the CTR.

EPA acknowledges that Lyke-based benefits represent a substantial portion of total benefits and supports these benefits estimates. (See also comment and response to CTR-035-009a.)

EPA considers Lyke's scenario (waters completely free of contaminants that may threaten human health) to be similar to a scenario in which all California waters meet the water quality standards established by the CTR. EPA has no information to show that these standards cannot be achieved. Thus, EPA used Lyke's results to estimate the total potential benefits of achieving standards. However, since point source controls alone may not be sufficient to achieve the standards throughout California, EPA allocated only a portion of the total benefits to the CTR.

EPA agrees that the study site for Lyke's research is substantially different from California waters.

However, EPA's search of the literature indicated that there is no similar research for California or other more similar waters. Therefore, EPA applied Lyke's results to provide decisionmakers with information on the types and potential magnitude of the benefits from water quality improvements, rather than leaving this important benefit category unmonetized. EPA has no information to determine whether California residents may value toxic-free waters more or less than Wisconsin residents.

EPA agrees that the contingent valuation method (CVM) elicits an individual's stated willingness to pay or accept compensation. The benefit-cost comparisons in EAs are prepared to inform the public and policy makers. Thus, the strengths and weaknesses of all aspects of the EA, including methodologies for estimating benefits, need to be made clear so that readers are aware of the limits and uncertainties. However, a 1993 Blue Ribbon Panel convened by the National Oceanic and Atmospheric Administration (NOAA) evaluated CVM and found it to be an appropriate methodology for measuring values. It is also the only method accepted by the U.S. Department of the Interior (DOI) to estimate nonuse values and has withstood Federal Court review for its use in litigation contexts.

Additionally, much of the criticism of CVM is conceptual rather than based on empirical research. Where CVM can be compared to other research techniques (e.g., use values estimated by the travel cost methodology or the hedonic price method), CVM is shown to yield similar values (see Brookshire et al., 1982 and Smith et al., 1986). Additionally, in several field experiments, actual purchase decisions were compared to hypothetical purchase decisions (Bishop and Heberlein, 1978 and Dickie et al., 1987). In all of these studies, hypothetical behavior was sufficiently predictive of actual behavior that researchers concluded meaningful values could be obtained for benefit-cost analysis or damage assessment (Ohio, 880 F. 2d, at pp. 442 and 462-63).

Bishop, R.C. and T.A. Heberlein. 1978. Measuring values of extra-market goods: Are indirect measures biased? *American Journal of Agricultural Economics* 61(5): 926-930.

Brookshire, D., M. Thayer, W.D. Schulze, and R. d'Arge. 1982. Valuing public goods: A comparison of the survey and hedonic approaches. *American Economic Review* 72(1): 165-177.

U.S. EPA, 1993. Regulatory Impact Analysis of the Proposed Great Lakes Water Quality Guidance. Final Report, April 15.

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Comment ID: CTR-044-043  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-02 Benefits Analysis  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: ATTACHMENT: 3 - 2 A Criteria Review of: "Discrete Choice Models to Value Changes in Environmental Quality: A Great Lakes Case Study"(\*1)

Introduction This dissertation is primarily concerned with examining economic models of natural

resource valuation. Specifically, two models were examined, the travel cost method and the contingent valuation method. The main purpose of this dissertation was to apply these probabilistic choice models to a new data set and examine their performance against one another. In this study, the main use of contingent valuation modeling is to provide alternative value estimates for comparison to the values produced by the travel cost model. The data set examined consisted of two sets of surveys completed by a total of 513 anglers in Wisconsin. One set of surveys examined Wisconsin anglers who fished for trout and salmon in the Great Lakes (274 respondents), while the second set examined those who fished for trout and salmon in inland waters other than the great lakes (239 respondents). The primary concern of this critique lies in the application of some of Lyke's findings to the benefits analysis of EPA's California Toxics Rule(\*2). Specifically, EPA uses Lyke's results in calculating the potential benefits accrued by California fisheries attributable to the implementation of the California Toxics Rule.

**The Models** Two models are used in analyzing the data. The first is the travel cost model which links travel costs and fishing success to angler decisions of where to fish. The second model is from a class of questioning methods known as contingent valuation. The travel model estimates non-market value from observable behavior (e.g. distance traveled to fishing sites) while the contingent valuation method simply measures attitudes (the willingness to pay to use a fishing site) not economic behavior per se. This critique is primarily concerned with the contingent valuation questions found in the surveys. These questions measured respondents valuation of their fishing experience (a valuation of the fishery) in relation to toxic contamination. The responses to these questions provide the basis for EPA's valuation of the improved fishing experience for California anglers after implementation of the California Toxics Rule.

**Sample Design Data** The contingent valuation model data are taken from two mail surveys of anglers who held fishing licenses in 1988 and fished in 1989. This study only examined the behavior and views of anglers who fish for trout and salmon. Millions of trout and salmon are planted in Wisconsin waters annually and catching them is a popular pastime. However, most of these fish are hatchery raised and as such represent a major expense for the state fees agency. To help defray these costs, the state requires a special trout and salmon stamp on the licenses of anglers who catch these fish. This added cost might deter some anglers, who then would not be in the "angler population" examined in this study. Also, since anglers who fish primarily for trout and salmon are willing to pay more to catch these prized gamefish, they may be more conscientious in returning questionnaires than "typical" anglers. Both these factors may cause overestimates of fisheries value in this study. This critique is primarily concerned with the data provided by Wisconsin anglers who were identified as having fished the Great Lakes for trout and salmon in 1989. This set consisted of 274 useable questionnaires (out of a possible 368 anglers).

**Results** Contingent valuation results were generated from responses to direct questions about the value of a given resource (in this case the Great Lakes sport fisheries). The contingent valuation models are applied to value the Wisconsin Great Lakes sport fisheries under current conditions as well as for hypothetical scenarios where contaminants are removed from the fishery and where native lake trout populations are rehabilitated. There is no travel cost model alternative to measuring these values. Lyke determined that the current value (in 1989 dollars) of the Great Lakes Fishery was \$339.43/angler/year (with a standard error of \$53.17). The value of a hypothetically "contaminant free" fishery to anglers was \$377.18/angler/year (with a standard error of \$64.60). These values can be found in Table 15 (pg. 169) of Lyke's dissertation. It appears that EPA uses these values to estimate the potential increase in value to California fisheries with the implementation of the California Toxics Rule. EPA estimates an 11.1 percent to 31.3 percent increase in value to fisheries following the application of the California Toxics Rule and the subsequent elimination of toxicants from affected waterbodies. These estimated increases appear to be drawn from the values presented by Lyke. There is an 11.1 percent increase in worth when the mean value of current conditions are compared to the mean value of the hypothetical "contaminant free"

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#### Conclusions:

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(\*1) Lyke, Audrey J., Dissertation submitted to the Graduate School of the University of Wisconsin-Madison, 1993.

(\*2) U.S. EPA Analysis of the Potential Benefits Related to Implementation of the California Toxics Rule. June 1997.

Response to: CTR-044-043

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obtained some inconsistent results. EPA applied Lyke's research to illustrate the types and potential magnitude of the benefits from water quality improvements. EPA conducted an extensive search of the literature for additional studies that provide indication of the potential magnitude of the benefits from reducing concentrations of toxic pollutants in California surface waters. The results of EPA's search are described in the EA that accompanies the final rule.

EPA acknowledges that applying Lyke's results to all California waters affected by toxics may overstate potential benefits (see EA p. 8-17). Anglers may or may not be aware of toxic contamination in the absence of fish consumption advisories. EPA acknowledges the limitations in the application of Lyke's research. However, EPA chose this approach to provide illustration of the potential magnitude of recreational angling values rather than leave this important benefit category unmonetized.

In addition, EPA believes that Lyke's scenario does not capture another component of potential value to current anglers that may result as reduced levels of toxic pollutants result in healthier sport fish populations. Lyke's survey asked anglers to consider a fishery that is free of contaminants that may threaten human health. However, fish are more sensitive than humans to some classes of toxic pollutants and fish populations may increase as contamination is reduced. To the extent that reducing toxic contamination results in a more satisfying angling experience in terms of increasing catch rates, achieving water quality standards may result in an increase in value to current anglers beyond that associated with reducing human health concerns.

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U.S. EPA, 1993. Regulatory Impact Analysis of the Proposed Great Lakes Water Quality Guidance. Final Report, April 15.

EPA considers Lyke's scenario (waters completely free of contaminants that may threaten human health) to be similar to a scenario in which all California waters meet the water quality standards established by the CTR. EPA has no information to show that these standards cannot be achieved. Thus, EPA used Lyke's results to estimate the total potential benefits of achieving standards. However, since point source controls alone may not be sufficient to achieve the standards throughout California, EPA allocated only a portion of the total benefits to the CTR.

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Bishop, R.C. and T.A. Heberlein. 1978. Measuring values of extra-market goods: Are indirect measures biased? *American Journal of Agricultural Economics* 61(5): 926-930.

Brookshire, D., M. Thayer, W.D. Schulze, and R. d'Arge. 1982. Valuing public goods: A comparison of the survey and hedonic approaches. *American Economic Review* 72(1): 165-177.

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Comment ID: CTR-052-003c

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: SC

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-02 Benefits Analysis

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES C-13

E-01

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Comment: However, the Authority is greatly disappointed that EPA chose not to follow the consensus recommendations for many of the most significant issues, including the methodology used for the EA and the choice of using the most conservative carcinogenicity factor for organic pollutants.

Response to: CTR-052-003c

While EPA agrees that the methodology recommended by the State Task Force on Economic Considerations may be one adequate method for the State to calculate the costs and benefits of State adoption and implementation of water quality standards, EPA never agreed that it would use this method for its own Economic Analysis (EA) for the following reasons:

- \* EPA's primary responsibility in developing the EA is that it meets the requirements of Executive Order 12866. For program consistency, EPA chose to model the methodology of the EA after the Regulatory Impact Analysis of the Great Lakes Water Quality Guidance which successfully underwent the full Executive Order 12866 process.
- \* EPA had already established its own methodology and began work on the EA nearly one year before the Task Force began meeting. EPA could not abruptly switch the methodology in the middle of the project due to the limited resources that could be spent on the EA. In addition, many task force members acknowledged that the consensus recommendation was a very resource intensive method and it was uncertain whether adequate data currently existed to bring this methodology to completion. EPA did not have the resources nor the data to perform this type of analysis in the time available.
- \* The State Task Force recommended a methodology, for future analysis by the State, that would gather ambient data to determine waters that were impaired by toxics, and then determine what actions needed to be taken by point and non-point sources to meet new water quality criteria. EPA determined that this methodology may be appropriate for future State analysis, but was not appropriate for EPA's Economic Analysis since EAs under the CWA typically estimate only costs that EPA can enforce under the Clean Water Act. Therefore, EPA's EA only calculates potential costs and benefits due to controls on NPDES point sources (excluding wet-weather discharges). EPA believes it may be more appropriate for the State to estimate potential impacts on non-point sources since it has the sole authority for enforcing any controls required by non-point sources.

EPA does not agree that its decision to use a 10<sup>-6</sup> risk level for carcinogenic pollutants conflicts with any of the State Task Force consensus recommendations. EPA does not observe in the Final Task Force Report, an explicit consensus recommendation of any specific risk level for carcinogenic pollutants.

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Comment ID: CTR-052-007

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-02 Benefits Analysis

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

**CROSS REFERENCES**

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Comment: EPA has greatly overstated the cost to benefit ratio. The EA concludes that the costs and benefits are nearly equal, which implies a cost to benefit ratio approaching unity, i.e. costs divided by benefits is about 1. The critique prepared by M.Cubed indicates that this is quite faulty, in that costs range from two to nine times the benefits as developed by EPA. Others have noted that the benefits are

also very questionable. Using the costs from No. 3, above, and EPA's high-end benefits, results in costs that are anywhere from 4.6 to 11 times the benefits. No rational person would ever spend that kind of money for such little benefit.

Response to: CTR-052-007

EPA believes that the potential benefits of the rule are reasonably similar to the potential costs. EPA also notes that, as described in the EA, the estimate of benefits may be underestimated as a result of omitted benefit categories while the estimate of costs was based on assumptions that tend to overstate costs. For example, reductions in noncancer health effects are omitted because there are currently few means of linking consumption of toxic contaminants by humans with cases of systemic effects (as opposed to cancer effects, for which dose-response curves have been estimated). Other omitted benefit categories include instream and near stream recreational activities other than fishing (e.g., boating, swimming, picnicking, and related activities). EPA believes other recreation benefits may be appreciable because these activities have been shown in empirical research to be highly valued, and even modest changes in participation or user values could lead to sizable benefits statewide. Some of these activities can be closely associated with water quality attributes (e.g., swimming) and others might increase due to their association with fishing, swimming, or other activities in which the participants might engage.

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Comment ID: CTR-054-047

Comment Author: Bay Area Dischargers Associati

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02 Benefits Analysis

References:

Attachments? N

CROSS REFERENCES

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Comment: ATTACHMENT: 3 - 2 A Criteria Review of: "Discrete Choice Models to Value Changes in Environmental Quality: A Great Lakes Case Study"(\*1)

Introduction This dissertation is primarily concerned with examining economic models of natural resource valuation. Specifically, two models were examined, the travel cost method and the contingent valuation method. The main purpose of this dissertation was to apply these probabilistic choice models to a new data set and examine their performance against one another. In this study, the main use of contingent valuation modeling is to provide alternative value estimates for comparison to the values produced by the travel cost model. The data set examined consisted of two sets of surveys completed by a total of 513 anglers in Wisconsin. One set of surveys examined Wisconsin anglers who fished for trout and salmon in the Great Lakes (274 respondents), while the second set examined those who fished for trout and salmon in inland waters other than the great lakes (239 respondents). The primary concern of this critique lies in the application of some of Lyke's findings to the benefits analysis of EPA's California Toxics Rule(\*2). Specifically, EPA uses Lyke's results in calculating the potential benefits accrued by California fisheries attributable to the implementation of the California Toxics Rule.

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questioning methods known as contingent valuation. The travel model estimates non-market value from observable behavior (e.g. distance traveled to fishing sites) while the contingent valuation method simply measures attitudes (the willingness to pay to use a fishing site) not economic behavior per se. This critique is primarily concerned with the contingent valuation questions found in the surveys. These questions measured respondents valuation of their fishing experience (a valuation of the fishery) in relation to toxic contamination. The responses to these questions provide the basis for EPA's valuation of the improved fishing experience for California anglers after implementation of the California Toxics Rule.

**Sample Design Data** The contingent valuation model data are taken from two mail surveys of anglers who held fishing licenses in 1988 and fished in 1989. This study only examined the behavior and views of anglers who fish for trout and salmon. Millions of trout and salmon are planted in Wisconsin waters annually and catching them is a popular pastime. However, most of these fish are hatchery raised and as such represent a major expense for the state fees agency. To help defray these costs, the state requires a special trout and salmon stamp on the licenses of anglers who catch these fish. This added cost might deter some anglers, who then would not be in the "angler population" examined in this study. Also, since anglers who fish primarily for trout and salmon are willing to pay more to catch these prized gamefish, they may be more conscientious in returning questionnaires than "typical" anglers. Both these factors may cause overestimates of fisheries value in this study. This critique is primarily concerned with the data provided by Wisconsin anglers who were identified as having fished the Great Lakes for trout and salmon in 1989. This set consisted of 274 useable questionnaires (out of a possible 368 anglers).

**Results** Contingent valuation results were generated from responses to direct questions about the value of a given resource (in this case the Great Lakes sport fisheries). The contingent valuation models are applied to value the Wisconsin Great Lakes sport fisheries under current conditions as well as for hypothetical scenarios where contaminants are removed from the fishery and where native lake trout populations are rehabilitated. There is no travel cost model alternative to measuring these values. Lyke determined that the current value (in 1989 dollars) of the Great Lakes Fishery was \$339.43/angler/year (with a standard error of \$53.17). The value of a hypothetically "contaminant free" fishery to anglers was \$377.18/angler/year (with a standard error of \$64.60). These values can be found in Table 15 (pg. 169) of Lyke's dissertation. It appears that EPA uses these values to estimate the potential increase in value to California fisheries with the implementation of the California Toxics Rule. EPA estimates an 11.1 percent to 31.3 percent increase in value to fisheries following the application of the California Toxics Rule and the subsequent elimination of toxicants from affected waterbodies. These estimated increases appear to be drawn from the values presented by Lyke. There is an 11.1 percent increase in worth when the mean value of current conditions are compared to the mean value of the hypothetical "contaminant free" conditions. There is a 31.8 percent increase in worth when the lower end (mean value minus the standard error) of the value for current conditions is compared to the mean value of the "contaminant free" conditions.

#### Conclusions:

- 1.) There is a lack of data on the value anglers in California place upon reducing toxic contamination to fisheries, so EPA used the increase in values produced by Lyke's model. However, the increases in value which Lyke shows are based on the responses of 274 individual anglers to only two contingent valuation questions in a mail survey containing a total of 64 questions. This is clearly a very small sample of the population of Wisconsin anglers and may have caused some bias in the analysis. This was probably a representative sample of anglers but not a random sample of anglers.
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5.) The degree and extent to which individual Great Lakes fishing sites and fisheries are contaminated by toxicants was not considered in this study. Therefore, it is unclear how well the study's findings can be applied to "contaminated" fisheries in California.

6.) Contingent valuation measures the attitudes of anglers, not their behavior. More specifically, it measures an anglers stated willingness to pay or compensate, not the actual behavior of paying or compensating.

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(\*1) Lyke, Audrey J., Dissertation submitted to the Graduate School of the University of Wisconsin-Madison, 1993.

(\*2) U.S. EPA Analysis of the Potential Benefits Related to Implementation of the California Toxics Rule. June 1997.

Response to: CTR-054-047

EPA acknowledges that Lyke's study has not been published in a peer reviewed journal and that she obtained some inconsistent results. EPA applied Lyke's research to illustrate the types and potential magnitude of the benefits from water quality improvements. EPA conducted an extensive search of the literature for additional studies that provide indication of the potential magnitude of the benefits from reducing concentrations of toxic pollutants in California surface waters. The results of EPA's search are described in the EA that accompanies the final rule.

EPA acknowledges that applying Lyke's results to all California waters affected by toxics may overstate potential benefits (see EA p. 8-17). Anglers may or may not be aware of toxic contamination in the absence of fish consumption advisories. EPA acknowledges the limitations in the application of Lyke's research. However, EPA chose this approach to provide illustration of the potential magnitude of recreational angling values rather than leave this important benefit category unmonetized.

In addition, EPA believes that Lyke's scenario does not capture another component of potential value to current anglers that may result as reduced levels of toxic pollutants result in healthier sport fish

populations. Lyke's survey asked anglers to consider a fishery that is free of contaminants that may threaten human health. However, fish are more sensitive than humans to some classes of toxic pollutants and fish populations may increase as contamination is reduced. To the extent that reducing toxic contamination results in a more satisfying angling experience in terms of increasing catch rates, achieving water quality standards may result in an increase in value to current anglers beyond that associated with reducing human health concerns.

EPA first applied Lyke's research in its analysis of the potential benefits of the Great Lakes Water Quality Guidance. Calculation of the range of results is explained in U.S. EPA (1993). Lyke estimated the Wisconsin Great Lakes open water sport fishery to be worth between \$339 and \$424 per licensed angler, resulting in an estimated consumer surplus associated with the fishery of between \$66.6 million and \$83.3 million annually. Lyke obtained values for a contaminant-free fishery ranging from \$7.4 million to \$26.1 million per year, with the range in results attributable to whether a linear or constant elasticity of scale functional form is used in the estimation. These results reflect between 11.1% and 31.3% of the value of the fishery under current conditions, which is the range of values EPA used in analysis of the CTR.

EPA acknowledges that Lyke-based benefits represent a substantial portion of total benefits and supports these benefits estimates. (See also comment and response to Issue 3.)

U.S. EPA, 1993. Regulatory Impact Analysis of the Proposed Great Lakes Water Quality Guidance. Final Report, April 15.

EPA considers Lyke's scenario (waters completely free of contaminants that may threaten human health) to be similar to a scenario in which all California waters meet the water quality standards established by the CTR. EPA has no information to show that these standards cannot be achieved. Thus, EPA used Lyke's results to estimate the total potential benefits of achieving standards. However, since point source controls alone may not be sufficient to achieve the standards throughout California, EPA allocated only a portion of the total benefits to the CTR.

EPA agrees that the study site for Lyke's research is substantially different from California waters. However, EPA's search of the literature indicated that there is no similar research for California or other more similar waters. Therefore, EPA applied Lyke's results to provide decisionmakers with information on the types and potential magnitude of the benefits from water quality improvements, rather than leaving this important benefit category unmonetized. EPA has no information to determine whether California residents may value toxic-free waters more or less than Wisconsin residents.

In addition, EPA believes that Lyke's scenario does not capture another component of potential value to current anglers that may result as reduced levels of toxic pollutants result in healthier sport fish populations. Lyke's survey asked anglers to consider a fishery that is free of contaminants that may threaten human health. However, fish are more sensitive than humans to some classes of toxic pollutants and fish populations may increase as contamination is reduced. To the extent that reducing toxic contamination results in a more satisfying angling experience in terms of increasing catch rates, achieving water quality standards may result in an increase in value to current anglers beyond that associated with reducing human health concerns.

EPA agrees that the contingent valuation method (CVM) elicits an individual's stated willingness to pay or accept compensation. The benefit-cost comparisons in EAs are prepared to inform the public and policy makers. Thus, the strengths and weaknesses of all aspects of the EA, including methodologies for estimating benefits, need to be made clear so that readers are aware of the limits and uncertainties.

However, a 1993 Blue Ribbon Panel convened by the National Oceanic and Atmospheric Administration (NOAA) evaluated CVM and found it to be an appropriate methodology for measuring values. It is also the only method accepted by the U.S. Department of the Interior (DOI) to estimate nonuse values and has withstood Federal Court review for its use in litigation contexts.

Additionally, much of the criticism of CVM is conceptual rather than based on empirical research. Where CVM can be compared to other research techniques (e.g., use values estimated by the travel cost methodology or the hedonic price method), CVM is shown to yield similar values (see Brookshire et al., 1982 and Smith et al., 1986). Additionally, in several field experiments, actual purchase decisions were compared to hypothetical purchase decisions (Bishop and Heberlein, 1978 and Dickie et al., 1987). In all of these studies, hypothetical behavior was sufficiently predictive of actual behavior that researchers concluded meaningful values could be obtained for benefit-cost analysis or damage assessment.

Bishop, R.C. and T.A. Heberlein. 1978. Measuring values of extra-market goods: Are indirect measures biased? *American Journal of Agricultural Economics* 61(5): 926-930.

Brookshire, D., M. Thayer, W.D. Schulze, and R. d'Arge. 1982. Valuing public goods: A comparison of the survey and hedonic approaches. *American Economic Review* 72(1): 165-177.

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Comment ID: CTR-090-008

Comment Author: C&C of SF, Public Util. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02 Benefits Analysis

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

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Comment: Major Concerns About the Proposed Criteria and Rule

1. The Proposal is Based on Poor Data and Will Not Result in Better Water Quality for California. We stated that our own attainability analysis and that of BADA show that San Francisco, will be impacted by this rule. Unfortunately, due to the short time for review, the poor quality of data and basis for statements and assumptions in the proposal and the problem with detection limits we cannot specifically say what will be the cost to Sari Francisco. One analysis tell us it could be \$2.3 million per year annualized costs and another analysis tells us it could be much more. We strongly recommend major revision to the proposal and the economic analysis before final promulgation for the following reasons:

The propose rule will cost more than EPA estimates, will not be applicable to those discharges that are of most concern and which interfere with the designated uses and therefore the rule will produce less benefits than EPA estimates.

Response to: CTR-090-008

Although the standards established by the CTR apply to all sources, EPA's analysis examined only the portion of benefits expected to be achieved by controlling point sources. EPA estimated the point source

share of benefits based on data and information on the relative contribution of all sources to toxic loadings in California waters. Although point sources may account for only a small portion of the load in some waters, they may account for relatively larger portions at some sites, and point source controls will contribute to meeting standards in the water bodies.

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Comment ID: CTR-091-002b  
Comment Author: Abu-Saba, Ganguli, Flegal  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org: Coastal Advocates  
Document Date: 09/25/97  
Subject Matter Code: E-02 Benefits Analysis  
References:  
Attachments? N  
CROSS REFERENCES E-01

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Comment: This comment addresses the mercury criteria for continuous concentration (CCC) proposed in 40 CFR, part 131(\*1). The proposed aquatic health and human health criteria do not protect aquatic life or humans from mercury contamination. This is demonstrated by the scientific data presented herein. That information includes published and unpublished results from scientists with established reputations in environmental research.

The aquatic life mercury CCC is proposed to be raised sixty-fold, from the National Toxics Rule standard of 0.012 micrograms per liter (ppb) to 0.770 ppb. The human health criteria is proposed to be raised four-fold, from 0.0 12 ppb to 0.050 ppb. These proposed changes have potentially devastating economic and environmental costs that must be included in the EPA's cost-benefit analysis. Water treatment costs for the metals mercury, silver, and chromium account for 30% of costs projected in the, California Toxics Rule (CTR) economic analysis. However, the long term environmental and economic cost of mercury contamination may far exceed the short term economic savings resulting from an increase in the mercury CCC. This is especially true in California, a mining state that has devoted hundreds of millions of dollars to restoration and enhancement of commercial and sport fisheries by enactment of Proposition 204.

The potential long-term economic and environmental costs of this proposed legislation far exceed any short-term benefits gained by raising the mandatory action level for mercury contamination. A stated goal of the recently passed Proposition 204 legislation is the protection and enhancement of commercial and sport fishing in the State of California. To that end, hundreds of millions of dollars have been committed to water quality improvement and fish habitat restoration. Increasing the permissible mercury limits will not only hinder those goals, but will likely cause irreversible damage to the environment well into the foreseeable future.

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(\*1) Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; Proposed Rule. U.S. Environmental Protection Agency, Region Nine; U.S. Government Printing Office: Washington D.C., 1997; Federal Register, 62, 42159-42207.

Response to: CTR-091-002b

The aquatic life criteria have been updated using EPA's peer-reviewed and accepted aquatic life

methodology. The previous 304(a) criteria guidance value was based on an FDA action level for humans, not on aquatic life protection. As such, the previous criteria are not as appropriate to use as the updated criteria proposed in the CTR. The revised criteria are less stringent than the previous criteria.

The human health criteria proposed in the CTR have also been updated using the risk reference dose for methylmercury. The previous 304(a) criteria guidance values were based on the risk reference does for mercury. The revised human health criteria in the CTR are more stringent than the previous human health criteria guidance.

All water quality standards are comprised of three parts: a designated use, and criterion, and an antidegradation policy. The CTR only proposes criteria. The State of California has adopted designated uses for its water bodies (called beneficial uses) in the Regional Water Board Basin Plans. The State has also adopted antidegradation provisions in each of the Regional Board Basin Plans. These provisions require that water quality in a waterbody cannot be degraded (with narrow exceptions as discussed at 40 CFR 131.12(a) (2) which allow a lowering of water quality if the State finds that it is necessary to accommodate important economic or social development). Thus, if a waterbody has achieved a certain level of cleanliness or is in a pristine condition, discharges are not allowed to degrade the water quality. Therefore, no environmental "cost" or degradation will be incurred as a result of any new or revised water quality criteria in the CTR that may be less stringent than a previously adopted objective or a criteria guidance value. Environmental benefits that have been gained in California fisheries or anywhere else cannot be destroyed.

See response to CTR-002-007b.

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Subject Matter Code: E-02c Overstated Benefits

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Comment ID: CTR-009-008b  
Comment Author: City of Thousand Oaks  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: E-02c Overstated Benefits  
References:  
Attachments? Y  
CROSS REFERENCES E-02o  
E-01s

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Comment: The City does not agree with the economic analysis. It is incomplete and misrepresents the actual costs and benefits. The analysis does not include costs of expensive AWT to meet more stringent limits based upon the proposed criteria. It does not include the first second, and third order costs to the community, individuals and businesses, of the economic dislocations resulting from huge capital costs, especially for small and economically distressed communities, that divert scarce resources from other priorities or out of the area. It does not include cost impact assessments to low and fixed-income households - ignoring the economic aspects of environmental justice. The benefits assessments make vast unsupported assumptions about the benefits of reductions in constituent concentrations that are barely, if even, measurable, and assigns unrealistic contingent valuations to these assumed benefits. The cost analyses does not follow EPA's own economic assessment guidance (which, itself, is fatally flawed). These points were brought up during the Task Force meetings in 1995 and 1996, but were dismissed outright by EPA. The City hereby raises these issues for the formal record.

The City of Thousand Oaks appreciates the opportunity to comment on the proposed California Toxics Rule.

Sincerely,

Donald H. Nelson Public Works Director

Response to: CTR-009-008b

EPA's own economic assessment guidance (Interim Economic Guidance for Water Quality Standards, EPA-823-B-95-002, March 1995) is intended to assist States and applicants in understanding the economic factors that may be considered, and the types of tests that can be used to determine if a designated use cannot be attained, if a variance can be granted, or if degradation of high-quality water is warranted. In order to remove a designated use or obtain a variance, or if degradation of high-quality water is warranted, the state or discharger must demonstrate that attaining the designated use would result in substantial and widespread economic and social impacts. Although EPA is responsible for approving a State's water quality standards, the State is responsible for interpreting the circumstances of each case and determining where there are substantial and widespread economic and social impacts, or where important social and economic development would be precluded.

Estimating the economic impact of the CTR in California requires a detailed econometric model of the region's economy. EPA did not conduct such an analysis of the rule. However, for a similar toxics rule in

the Great Lakes Basin, an econometric analysis was performed independent of the regulatory impact analysis for the Council of Great Lakes Governors (The Great Lakes Water Quality Initiative: Cost Effective Measures to Enhance Environmental Quality and Regional Competitiveness. DRI/McGraw-Hill, San Francisco, California, July 1993). This analysis showed a minimal impact of the rule on the region's economy for a worst case scenario, a scenario with costs far exceeding those estimated by EPA. Manufacturing output was estimated to fall by between 0.008% and 0.337% over a range of four scenarios evaluated, while personal income loss was estimated at between 0.002% and 0.094% for these scenarios. As a result, the study authors concluded that the impact of the rule on the region's economy would be "nearly imperceptible." Thus, similar controls on toxic pollutants have been shown to be affordable in other regions of the country.

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Comment ID: CTR-035-009b

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02c Overstated Benefits

References:

Attachments? N

CROSS REFERENCES E-02f

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Comment: We also question the estimates of the benefits derived in the draft Economic Analysis, and believe that more recent information specific to California should be collected and used. In particular, for most of the benefits, estimates are based on a comparison with waters which are completely free of contaminants or unimpaired, which is unrealistic. There is also little evaluation of the marginal benefits of the proposed rule (i.e. the benefits that would be realized as a result of marginal changes in contamination levels). While presumably achievement of the full reductions necessary to meet the CTR criteria in ambient waters is EPA's goal, EPA itself acknowledges that few of the benefits of the CTR are likely to be realized through point source controls, and the Agency fails to demonstrate how the water quality criteria promulgated by the CTR will be achieved.

Response to: CTR-035-009b

EPA considers Lyke's scenario (waters completely free of contaminants that may threaten human health) to be similar to a scenario in which all California waters meet the water quality standards established by the CTR. EPA has no information to show that these standards cannot be achieved. Thus, EPA used Lyke's results to estimate the total potential benefits of achieving standards. However, since point source controls alone may not be sufficient to achieve the standards throughout California, EPA allocated only a portion of the total benefits to the CTR.

EPA agrees that the study site for Lyke's research is substantially different from California waters. However, EPA's search of the literature indicated that there is no similar research for California or other more similar waters. Therefore, EPA applied Lyke's results to provide decisionmakers with information on the types and potential magnitude of the benefits from water quality improvements, rather than leaving this important benefit category unmonetized. EPA has no information to determine whether California residents may value toxic-free waters more or less than Wisconsin residents.

In addition, EPA believes that Lyke's scenario does not capture another component of potential value to current anglers that may result as reduced levels of toxic pollutants result in healthier sport fish populations. Lyke's survey asked anglers to consider a fishery that is free of contaminants that may threaten human health. However, fish are more sensitive than humans to some classes of toxic pollutants and fish populations may increase as contamination is reduced. To the extent that reducing toxic contamination results in a more satisfying angling experience in terms of increasing catch rates, achieving water quality standards may result in an increase in value to current anglers beyond that associated with reducing human health concerns.

Water quality improvements often involve thresholds such as action levels for fish consumption advisories. However, water quality regulations often contribute only a portion of the improvement needed to surpass a threshold. Although individuals may (or may not) have a willingness to pay for incremental steps toward crossing a threshold, when the threshold is surpassed (e.g., fish consumption advisories are lifted), every action that contributed to the effort should be allocated a portion of the benefits. This was accomplished for the CTR by allocating a portion of the total toxic-free benefits (proportional to the reduction in loadings) to the implementation of point source controls under the CTR.

EPA's analysis presents only the portion of the total potential benefits that can be achieved by controlling point sources. EPA expects additional benefits will accrue as a result of controlling other sources. EPA has no reason to believe that the standards established by the CTR cannot be achieved.

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Comment ID: CTR-035-065b  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-02c Overstated Benefits  
References:  
Attachments? N  
CROSS REFERENCES E-02k

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Comment: Weaknesses in Benefits Analysis

USEPA's benefits analysis is even weaker than its cost evaluation. For example:

\* Although there is evidence that the Rule could result in no benefits in the near-term due to long-term environmental persistence of existing contamination, the Analysis does a poor job of highlighting this potential outcome. For example, there is some likelihood that benefits could truly be zero, while under no circumstances will Rule implementation be costless. Likewise, USEPA's use of ranges to express potential benefit values may mislead readers into believing that the estimated high benefits are as likely to be achieved as the low benefits, when in fact the probability that different benefit levels will actually be achieved varies greatly from low to high.

Response to: CTR-035-065b

The range of estimated benefits in part reflects the range in loadings reductions that may result from point source controls given the flexibility in State implementation procedures. The decision as to which

implementation procedures will be employed, and therefore what costs and benefits will result, will be made by state and local entities for specific locations.

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Comment ID: CTR-035-068  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-02c Overstated Benefits  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: \* Most of the benefits estimates are based on a comparison with waters which are "completely unimpaired", "contaminant free," or "completely free of pollutants that may threaten human health." Even if point source reductions are fully obtained, California's waters will remain polluted from non-point sources and contaminants already in the environment for the foreseeable future. In fact, it is unlikely that most state waters will ever be completely unimpaired, and the use and non-use values associated with complete purity may be considerably higher than the more likely outcome of long-term small-scale contamination.

Response to: CTR-035-068

Although the standards established by the CTR apply to all sources, EPA's analysis examined only the portion of benefits expected to be achieved by controlling point sources. EPA estimated the point source share of benefits based on data and information on the relative contribution of all sources to toxic loadings in California waters. Although point sources may account for only a small portion of the load in some waters, they may account for relatively larger portions at some sites, and point source controls will contribute to meeting standards in the water bodies.

EPA's analysis presents only the portion of the total potential benefits that can be achieved by controlling point sources. EPA expects additional benefits will accrue as a result of controlling other sources. EPA has no reason to believe that the standards established by the CTR cannot be achieved.

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Comment ID: CTR-040-008c  
Comment Author: County of Sacramento Water Div  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-02c Overstated Benefits  
References: Letter CTR-040 incorporates by reference letter CTR-027  
Attachments? Y  
**CROSS REFERENCES E-01c02**  
E-01m

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Comment: MAJOR CONCERNS

We do, however, have fundamental concerns with the Rule as it is presently proposed and its supporting economic analysis. We believe the Rule can be modified in a manner that will be responsive to our concerns while at the same time being consistent with applicable Federal law and regulations. Our major concerns are presented here and are followed by our recommended modifications.

II. Concern: The economic analysis upon which the Rule is based is seriously flawed.

- \* Estimates of potential costs are severely constrained due to certain assumptions including the assumption that regulatory relief from the Rule will be granted if costs are in excess of certain thresholds.
- \* Estimates of potential benefits are exaggerated by assuming, that the proposed water quality criteria will actually be achieved in receiving water bodies. This will not result from the implementation of the Rule because the Rule is only addressing permitted discharges to the receiving water bodies.
- \* The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated.

Response to: CTR-040-008c

EPA's analysis presents only the portion of the total potential benefits that can be achieved by controlling point sources. EPA expects additional benefits will accrue as a result of controlling other sources. EPA has no reason to believe that the standards established by the CTR cannot be achieved.

EPA does not believe that estimates of potential costs are constrained due to assumptions regarding regulatory relief from the Rule. Although EPA considered an industry category cost threshold under the low cost scenario, beyond which a facility was assumed to pursue regulatory relief, no such assumption was used for the high cost scenario. That is, under the high scenario all necessary pollutant reductions were assumed to be achieved through either treatment or a waste control program (e.g. waste minimization pollution prevention).

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Comment ID: CTR-040-043

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02c Overstated Benefits

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: Review of EPA's Analysis of Potential Benefits

The benefits analysis overstates benefits by assuming an end (i.e., achievement of the water quality criteria) that will not result from the CTR. The CTR will impact point sources, which EPA acknowledges are only a small portion of the toxic pollutant load (3% of the load to freshwater and 1%-11% of the load

to San Francisco Bay). The major sources of toxic pollutants, nonpoint sources, are not regulated under the Clean Water Act or the CTR.

Response to: CTR-040-043

EPA's analysis presents only the portion of the total potential benefits that can be achieved by controlling point sources. EPA expects additional benefits will accrue as a result of controlling other sources. EPA has no reason to believe that the standards established by the CTR cannot be achieved.

Although the standards established by the CTR apply to the waterbody (i.e., inland surface waters and enclosed bays and estuaries), EPA's analysis examined only the portion of benefits expected to be achieved by controlling point sources. EPA estimated the point source share of benefits based on data and information on the relative contribution of all sources to toxic loadings in California waters. Although point sources may account for only a small portion of the load in some waters, they may account for relatively larger portions at some sites, and point source controls will contribute to meeting standards in the water bodies.

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Comment ID: CTR-041-039

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02c Overstated Benefits

References:

Attachments? N

CROSS REFERENCES

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Comment: Review of EPA's Analysis of Potential Benefits

The benefits analysis overstates benefits by assuming an end (i.e., achievement of the water quality criteria) that will not result from the CTR. The CTR will impact point sources, which EPA acknowledges are only a small portion of the toxic pollutant load (3% of the load to freshwater and 1 %-11% of the load to San Francisco Bay). The major sources of toxic pollutants, nonpoint sources, are not regulated under the Clean Water Act or the CTR.

Response to: CTR-041-039

Although the standards established by the CTR apply to all sources, EPA's analysis examined only the portion of benefits expected to be achieved by controlling point sources. EPA estimated the point source share of benefits based on data and information on the relative contribution of all sources to toxic loadings in California waters. Although point sources may account for only a small portion of the load in some waters, they may account for relatively larger portions at some sites, and point source controls will contribute to meeting standards in the water bodies.

EPA's analysis presents only the portion of the total potential benefits that can be achieved by controlling point sources. EPA expects additional benefits will accrue as a result of controlling other sources. EPA has no reason to believe that the standards established by the CTR cannot be achieved.

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Comment ID: CTR-043-004d  
Comment Author: City of Vacaville  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-02c Overstated Benefits  
References:  
Attachments? Y  
CROSS REFERENCES E-01g  
E-01h  
E-01m  
E-01c02

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Comment: 4. EPA's Economic Analysis is seriously flawed. The major flaws include:

- (1) failing to do an appropriate sampling of small dischargers having little or no dilution;
- (2) assuming in the high-end cost scenario that a 25% reduction could be achieved through source control and an additional 25% achieved through treatment plant optimization without capital improvements;
- (3) constraining estimates of potential costs through key assumptions, including the assumption that regulatory relief from the rule would be granted if costs were in excess of certain thresholds; and
- (4) exaggerating estimates of potential benefits by assuming an end (i.e., achievement of the proposed water quality criteria) that will not result from the rule.

The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated. Moreover, the flawed economic analysis has led to the erroneous conclusion that the CTR is not a "significant regulatory action" or major rule subject to Presidential Executive Order 12866 and the Unfunded Mandates Reform Act or a rule that affects small entities protected under the Regulatory Flexibility Act.

Response to: CTR-043-004d

EPA's analysis presents only the portion of the total potential benefits that can be achieved by controlling point sources. EPA expects additional benefits will accrue as a result of controlling other sources. EPA has no reason to believe that the standards established by the CTR cannot be achieved.

EPA does not believe that estimates of potential costs are constrained due to assumptions regarding regulatory relief from the Rule. Although EPA considered an industry category cost threshold under the low cost scenario, beyond which a facility was assumed to pursue regulatory relief, no such assumption was used for the high cost scenario. That is, under the high scenario all necessary pollutant reductions were assumed to be achieved through either treatment or a waste control program (e.g. waste minimization pollution prevention).

EPA's EA, which uses many conservative costing assumptions, indicates that the cost of the State implementing water quality standards based on the proposed criteria in the CTR is likely to be below

\$100 million per year. Benefits are also estimated to be below \$100 million per year. These estimates indicate that the action is not "significant" under E.O. 12866, under the provision concerning annual effects on the economy.

Criteria, by themselves, do not directly impose economic impacts. Criteria are one of three parts of a water quality standard. A water quality standard is comprised of: a criterion, a designated use, and an antidegradation policy. California currently has a narrative criterion stating that there shall be no toxic in toxic amounts. Pursuant to this narrative criterion, which are the basis for this rule. Under this scenario, the rule would have no costs. Under the second scenario, assumes that without this rule, the current permit conditions for point sources would continue in the future. Under this second scenario, EPA assessed a range of potential costs that would be incurred for point sources to meet these criteria - the low end being based on current effluent concentrations, the high end being based on current permit limits. [Pursuant to this analysis, it has been determined that this is not a significant regulatory action subject to OMB review.] See the preamble for the final rule.

The Unfunded Mandates Reform Act of 1995 (UMRA) in general requires federal agencies to assess the effects of their regulatory actions on State and local governments, and on the private sector. The agency must prepare a written statement including a cost-benefit analysis for actions with a "federal mandate" that may result in expenditures to State and local governments, in the aggregate, or to the private sector of \$100 million or more in any one year. The CTR does not contain any federal mandate that may result in expenditures by State and local governments, or the private sector, of \$100 million or more in any one year. The CTR imposes no direct enforceable duties on the State, local or private sector; rather the rule promulgates water quality criteria which, when combined with State-adopted designated uses and antidegradation requirements, will create water quality standards. The CTR does not directly regulate or affect any entity and therefore is not subject to the requirements of UMRA. See the preamble to the final rule.

See also response to CTR-050-007a.

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Comment ID: CTR-044-005d  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-02c Overstated Benefits  
References:  
Attachments? Y  
CROSS REFERENCES E-01g08  
E-01h01  
E-01m  
E-01c02  
R  
S

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Comment: We have reviewed the proposed CTR and offer the following comments:

4. EPA's Economic Analysis is seriously flawed. The major flaws include:

(1) failing to do an appropriate sampling of small dischargers having little or no dilution; (2) assuming in the high-end cost scenario that a 25% reduction could be achieved through source control and an additional 25% achieved through treatment plant optimization without capital improvements; (3) constraining estimates of potential costs through key assumptions, including the assumption that regulatory relief from the rule would be granted if costs were in excess of certain thresholds; and (4) exaggerating estimates of potential benefits by assuming an end (i.e., achievement of the proposed water quality criteria) that will not result from the rule. Additional concerns with the economic analysis are presented in Exhibit F. The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated. Moreover, the flawed economic analysis has led to the erroneous conclusion that the CTR is not a "significant regulatory action" or major rule subject to Presidential Executive Order 12866 and the Unfunded Mandates Reform Act or a rule that affects small entities protected under the Regulatory Flexibility Act. The City, for example, is a small community having a population of under 50,000 and would be greatly impacted by the proposed rule.

Response to: CTR-044-005d

EPA's analysis presents only the portion of the total potential benefits that can be achieved by controlling point sources. EPA expects additional benefits will accrue as a result of controlling other sources. EPA has no reason to believe that the standards established by the CTR cannot be achieved.

EPA does not believe that estimates of potential costs are constrained due to assumptions regarding regulatory relief from the Rule. Although EPA considered an industry category cost threshold under the low cost scenario, beyond which a facility was assumed to pursue regulatory relief, no such assumption was used for the high cost scenario. That is, under the high scenario all necessary pollutant reductions were assumed to be achieved through either treatment or a waste control program (e.g. waste minimization pollution prevention).

EPA's EA, which uses many conservative costing assumptions, indicates that the cost of the State implementing water quality standards based on the proposed criteria in the CTR is likely to be below \$100 million per year. Benefits are also estimated to be below \$100 million per year. These estimates indicate that the action is not "significant" under E.O. 12866, under the provision concerning annual effects on the economy.

California currently has a narrative criterion stating that there shall be no toxic in toxic amounts. Pursuant to this narrative criterion, which are the basis for this rule. Under this scenario, the rule would have no costs. Under the second scenario, assumes that without this rule, the current permit conditions for point sources would continue in the future. Under this second scenario, EPA assessed a range of potential costs that would be incurred for point sources to meet these criteria - the low end being based on current effluent concentrations, the high end being based on current permit limits. [Pursuant to this analysis, it has been determined that this is not a significant regulatory action subject to OMB review.] See the preamble for the final rule.

The Unfunded Mandates Reform Act of 1995 (UMRA) in general requires federal agencies to assess the effects of their regulatory actions on State and local governments, and on the private sector. The agency must prepare a written statement including a cost-benefit analysis for actions with a "federal mandate" that may result in expenditures to State and local governments, in the aggregate, or to the private sector of \$100 million or more in any one year. The CTR does not contain any federal mandate that may result in expenditures by State and local governments, or the private sector, of \$100 million or more in any one year. The CTR imposes no direct enforceable duties on the State, local or private sector; rather the rule

promulgates water quality criteria which, when combined with State-adopted designated uses and antidegradation requirements, will create water quality standards. The CTR does not directly regulate or affect any entity and therefore is not subject to the requirements of UMRA. See preamble to the final rule.

See also the response to CTR-050-007a.

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Comment ID: CTR-044-034  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-02c Overstated Benefits  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Review of EPA's Analysis of Potential Benefits

The benefits analysis overstates benefits by assuming an end (i.e., achievement of the water quality criteria) that will not result from the CTR. The CTR will impact point sources, which EPA acknowledges are only a small portion of the toxic pollutant load (3% of the load to freshwater and 1 %-11% of the load to San Francisco Bay). The major sources of toxic pollutants, nonpoint sources, are not regulated under the Clean Water Act or the CTR.

Response to: CTR-044-034

Although the standards established by the CTR apply to all sources, EPA's analysis examined only the portion of benefits expected to be achieved by controlling point sources. EPA estimated the point source share of benefits based on data and information on the relative contribution of all sources to toxic loadings in California waters. Although point sources may account for only a small portion of the load in some waters, they may account for relatively larger portions at some sites, and point source controls will contribute to meeting standards in the water bodies.

EPA's analysis presents only the portion of the total potential benefits that can be achieved by controlling point sources. EPA expects additional benefits will accrue as a result of controlling other sources. EPA has no reason to believe that the standards established by the CTR cannot be achieved.

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Comment ID: CTR-054-038  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-02c Overstated Benefits  
References:

Attachments? N

**CROSS REFERENCES**

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Comment: Review of EPA's Analysis of Potential Benefits

The benefits analysis overstates benefits by assuming an end (i.e., achievement of the water quality criteria) that will not result from the CTR. The CTR will impact point sources, which EPA acknowledges are only a small portion of the toxic pollutant load (3% of the load to freshwater and 1 %-11% of the load to San Francisco Bay). The major sources of toxic pollutants, nonpoint sources, are not regulated under the Clean Water Act or the CTR.

Response to: CTR-054-038

Although the standards established by the CTR apply to all sources, EPA's analysis examined only the portion of benefits expected to be achieved by controlling point sources. EPA estimated the point source share of benefits based on data and information on the relative contribution of all sources to toxic loadings in California waters. Although point sources may account for only a small portion of the load in some waters, they may account for relatively larger portions at some sites, and point source controls will contribute to meeting standards in the water bodies.

EPA's analysis presents only the portion of the total potential benefits that can be achieved by controlling point sources. EPA expects additional benefits will accrue as a result of controlling other sources. EPA has no reason to believe that the standards established by the CTR cannot be achieved.

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Comment ID: CTR-061-018

Comment Author: G. Fred Lee & Associates

Document Type: Academia

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02c Overstated Benefits

References:

Attachments? Y

**CROSS REFERENCES**

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Comment: Page 42190, bottom of the first and all of the second and third columns, discuss benefits. This discussion on the benefits of achieving these criteria is superficial, at best. There is no way to reliably estimate the improvement in the real water quality - beneficial uses arising from the adoption of these criteria since the database needed to relate the exceedances of the criteria to real water quality use-impairments does not exist. Many of the exceedances that are now occurring are "administrative" exceedances related to overly protective approaches dictated by the US EPA that have been and will likely continue to be used in implementing the criteria into discharge limits.

Response to: CTR-061-018

EPA defined toxic-impaired waters as waters rated medium or poor quality for at least one or more toxic pollutant or group of pollutants. EPA acknowledged that this definition may result in an overestimate of toxic-impairment (EA Chapter 8). However, the rating of these waters corresponds to EPA's categories of

'not fully supporting' and 'partially supporting' designated uses. The existence of waters not supporting and only partially supporting designated uses is indicative of the need for and benefits associated with pollution controls.

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Subject Matter Code: E-02d Passive Use Value

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Comment ID: CTR-026-009

Comment Author: Cal. Department of Fish & Game

Document Type: State Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02d Passive Use Value

References:

Attachments? N

**CROSS REFERENCES**

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Comment: 9. ECONOMIC ANALYSIS

The document entitled "Economic Analysis of the Proposed California Water Quality Toxics Rule" examines in large part the benefits and costs of changes in water quality due to point source dischargers implementation actions using the CTR-based water quality standards. This comment addresses the approach to quantifying benefits know as "passive use values" held by the public. We believe that a "rule of thumb" ratio of 50% or 0.5 for passive use values to active use values is overly conservative and leads to a significant understatement of the potential benefits of water quality improvements.

The CDFG has recently hired Dr. John Loomis (Colorado State University, Fort Collins) to establish such a passive use to active use value ratio, for small scale changes in the quality and/or quantity of natural resources and the services they provide to the public. Dr. Loomis conducts a comprehensive review of the resource economics literature and provided a conservative estimate of 1.43 versus the 0.50 used in the Economic Analysis performed for the CTR. We believe that should the US EPA attempt to quantify passive use benefits of the CTR, that a more appropriate use value ratio (or rule of thumb) is 1.43 rather than the 0.5 currently used in the analysis.

Response to: CTR-026-009

EPA reviewed the recent review by Dr. John Loomis referenced by the commenter (Loomis, 1997). Dr. Loomis conducted this review for application to the California Type A Model for simplified damage assessments under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980.

Dr. Loomis compiled studies from several previous reviews, including Fisher and Raucher (1984), Bishop et al. (1993), and Brown (1993). Each study used different approaches for calculating the ratio of passive use to use values, including comparison of use and passive use values, relying on respondents to prorate their willingness to pay between use and passive use components, and obtaining values when respondents are asked to assume active use is zero. Dr. Loomis notes that the prorating approach can yield higher estimates of the ratio than other approaches. He calculated his ratio of 1.43 by averaging across ratios calculated by all methods employed, after excluding outliers (three studies showing ratios of greater than 6) and studies involving unique resources or endangered species (studies involving bald eagles, grizzly bears, whooping cranes, and Mono Lake were not deemed appropriate for application to small oil spills).

As described in the EA accompanying the proposed CTR, in applying a rule of thumb such as the ratio of

passive use to use values, it is important to consider the extent to which the primary research efforts have evaluated resources and changes in resource conditions that are reasonably comparable to the CTR (see Chapter 8 EA). EPA considered the studies evaluated by Fisher and Raucher (1984) and which indicated a ratio of 0.5 more applicable to the CTR than studies indicating potentially higher ratios. For example, a study by Sanders et al. (1990) indicated a ratio of approximately 1.8 or 1.9, however, the results are based on the value of preserving several free-flowing river segments in Colorado from the development of dams and other major, irreversible hydrological modifications.

Dr. Loomis' review also includes studies that value environmental changes substantially different from those expected under the CTR. For example, a study by Haefele, et al (1992) estimates the total value of forest quality in high elevation spruce forests. This study contributes ratios of 10.74 and 6.7 to Dr. Loomis' review. A study by King et al (1988) , which contributed a ratio of 7.57, estimated the value of a herd of desert bighorn sheep. In addition, Dr. Loomis excluded studies of unique resources and endangered species (e.g., bald eagles) because of a lack of applicability to small oil spills; unique resources and endangered species are of relevance to the CTR.

Dr. Loomis' review of the ratio EPA applied to estimate passive use benefits for the CTR indicates that this ratio may be conservatively estimated. However, for the CTR, EPA used a less conservative application of the ratio compared to previous applications. That is, the selected ratio is typically multiplied by use values (e.g., recreational angling values for the CTR, nonconsumptive use values for the CERCLA Type A Model) to estimate passive use values. This application may be conservative because, in effect, passive use values are only being counted for resource users. To include passive use values for nonusers in its analysis of benefits for the CTR, EPA estimated passive use values for nonangling California households.

## References

Bishop, R. M. Welsh, and S. Press. 1993. The CERCLA Type-A Natural Resource Damage Assessment Model for the Great Lakes Environment. Vol. 1, Draft.

Brown, T. 1993. Measuring Non-use Values: A Comparison of Recent Contingent Valuation Studies, in Benefits and Cost Transfers in Natural Resource Planning, Sixth Interim Report, J.C. Bergstrom, Compiler. Department of Agricultural and Applied Economics, University of Georgia, Athens, Georgia.

Fisher, A. and R. Raucher. 1984. Intrinsic Benefits of Improved Water Quality: Conceptual and Empirical Perspectives, Advances in Micro-Economics, V.K. Smith and A.D. Witte, eds. Vol. 3, JAI Press, Greenwich, CT.

Haefele, M., R.Kramer, and T. Holmes. 1992. Estimating the Total Value of Forest Quality in High Elevation Spruce Forests, in The Economic Value of Wilderness: Proceedings of the conference. GTR SE-78, Southern Forest Experiment Station. U.S. Forest Service, Asheville, NC.

King, D.A. , D.J. Flynn, and W.W. Shaw. 1988. Total and Existence Values of a Herd of Desert Bighorn Sheep. Benefits and Costs in Natural Resource Planning, Interim Report. Western Regional Research Publication W-133.

Loomis, J. 1997. Calculation of Nonuse Value Ratios and Documentation for the California Type A Model. Department of Agricultural and Resource Economics, Colorado State University, Fort Collins, CO.

Sanders, L.D., R.G. Walsh, and J.B. Loomis. 1990. "Toward Empirical Estimation of the Total Value of Protecting Rivers." *Water Resources Research*. 26(7):1345-1357.

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Comment ID: CTR-035-055

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02d Passive Use Value

References:

Attachments? N

**CROSS REFERENCES**

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Comment: pp. 8-24 - 8-27 (U.S. EPA, 1997a) -- Passive Use Benefits The Economic Analysis assumes that a substantial portion of the benefits would accrue from passive use benefits (about 60% for the low end estimate and 70% for the high end estimate). We believe that, based on the number and type of assumptions required, and the reliance on studies of other types of passive use benefits (e.g. avoidance of mining activities or building a dam), these estimates are extremely tenuous. None of the studies cited examined the marginal benefits of incremental improvements in concentrations of toxic pollutants, nor were any of the studies based in California. Furthermore, it does not appear that EPA apportioned the passive use benefits attributable to improvements in water quality that will occur as a result of the CTR, as was done for other benefit categories. We recommend that the inclusion of quantitative estimates be reconsidered for passive use benefits, and, at most, only that portion representing the benefits attributable to the CTR be included.

Response to: CTR-035-055

As described in the EA (Chapter 8), research provides empirical evidence of the passive use values associated with improved water quality and fisheries. Research also indicates that these values are at least half as great as recreational values, such that if they are potentially applicable to a policy action, providing a rough approximation is preferable, with proper caveats, to omitting them from the analysis of benefits and costs. EPA believes that the studies used to calculate the ratio of passive use to use value are applicable to the CTR (see also comment and response CTR-026-009).

Therefore, EPA applies a ratio of .5 to obtain an estimate of passive use values for those households that have active recreational anglers. Based on a review of the literature, EPA believes that non-angling household do indeed have a passive use value. To determine a lower-bound estimate of passive use values for non-angling households, EPA assumed that the value may be 30% of the value for angling households. For analysis of the final CTR, EPA revised the upper-bound estimate assuming that the passive use value of non-angling households may be 90% of those for angling households. This revision is based on a study by Loomis et al. (1991), who estimated the benefits of improved fishery, wetland, and waterfowl resources in the San Joaquin Valley to users and nonusers residing in California.

By multiplying a ratio of passive use to use value by recreational fishing values, which EPA apportioned to reflect the relative contribution of point sources, EPA also accounted for attribution in its estimate of passive use values.

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Comment ID: CTR-040-047

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02d Passive Use Value

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: EPA's estimate of passive use benefits (\$36.3 million annually under the high-end scenario and 70% of the total estimated benefits) is erroneous. First, it is based on an unsupported assumption that non-use values (e.g., property values) are depressed in California because of pollution. Second, it is based on the assumption that the water quality criteria will be achieved as a result of the CTR, which as previously stated, is not the case.

Response to: CTR-040-047

As described in the EA (Chapter 8), research provides empirical evidence of the passive use values associated with improved water quality and fisheries. EPA believes that these studies are applicable to the CTR. EPA also believes that its assessment of toxic impairment of California, based on data and information compiled by the State Water Resource Control Boards, is reasonably accurate.

EPA's analysis presents only the portion of the total potential benefits that can be achieved by controlling point sources. EPA expects additional benefits will accrue as a result of the State's actions that may control other sources. EPA has no reason to believe that the standards established by the CTR cannot be achieved.

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Comment ID: CTR-041-043

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02d Passive Use Value

References:

Attachments? N

CROSS REFERENCES

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Comment: EPA's estimate of passive use benefits (\$36.3 million annually under the high-end scenario and 70% of the total estimated benefits) is erroneous. First, it is based on an unsupported assumption that non-use values (e.g., property values) are depressed in California because of pollution. Second, it is based on the assumption that the water quality criteria will be achieved as a result of the CTR, which as previously stated, is not the case.

Response to: CTR-041-043

As described in the EA (Chapter 8), research provides empirical evidence of the passive use values associated with improved water quality and fisheries. EPA believes that these studies are applicable to the CTR. EPA also believes that its assessment of toxic impairment of California, based on data and information compiled by the State Water Resource Control Boards, is reasonably accurate.

EPA's analysis presents only the portion of the total potential benefits that can be achieved by controlling point sources. EPA expects additional benefits will accrue as a result of the State's actions that may control other sources. EPA has no reason to believe that the standards established by the CTR cannot be achieved.

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Comment ID: CTR-044-038

Comment Author: City of Woodland

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-02d Passive Use Value

References:

Attachments? N

CROSS REFERENCES

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Comment: EPA's estimate of passive use benefits (\$36.3 million annually under the high-end scenario and 70% of the total estimated benefits) is erroneous. First, it is based on an unsupported assumption that non-use values (e.g., property values) are depressed in California because of pollution. Second, it is based on the assumption that the water quality criteria will be achieved as a result of the CTR, which as previously stated, is not the case.

Response to: CTR-044-038

As described in the EA (p. 8-22), research provides empirical evidence of the passive use values associated with improved water quality and fisheries. EPA believes that these studies are applicable to the CTR. EPA also believes that its assessment of toxic impairment of California, based on data and information compiled by the State Water Resource Control Boards, is reasonably accurate.

EPA's analysis presents only the portion of the total potential benefits that can be achieved by controlling point sources. EPA expects additional benefits will accrue as a result of controlling other sources. EPA has no reason to believe that the standards established by the CTR cannot be achieved.

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Comment ID: CTR-054-042

Comment Author: Bay Area Dischargers Associati

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02d Passive Use Value

References:

Attachments? N

**CROSS REFERENCES**

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Comment: EPA's estimate of passive use benefits (\$36.3 million annually under the high-end scenario and 70% of the total estimated benefits) is erroneous. First, it is based on an unsupported assumption that non-use values (e.g., property values) are depressed in California because of pollution. Second, it is based on the assumption that the water quality criteria will be achieved as a result of the CTR, which as previously stated, is not the case.

Response to: CTR-054-042

As described in the EA (p. 8-22), research provides empirical evidence of the passive use values associated with improved water quality and fisheries. EPA believes that these studies are applicable to the CTR. EPA also believes that its assessment of toxic impairment of California, based on data and information compiled by the State Water Resource Control Boards, is reasonably accurate.

EPA's analysis presents only the portion of the total potential benefits that can be achieved by controlling point sources. EPA expects additional benefits will accrue as a result of controlling other sources. EPA has no reason to believe that the standards established by the CTR cannot be achieved.

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Subject Matter Code: E-02e Include Omitted Benefits

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Comment ID: CTR-029-004b  
Comment Author: Center for Marine Conservation  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-02e Include Omitted Benefits  
References:  
Attachments? N  
CROSS REFERENCES E-01c02

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Comment: The Center for Marine Conservation (CMC) is a nationwide, nonprofit advocacy group dedicated to the conservation and enhancement of coastal and ocean life and resources. CMC submits these comments on behalf of its 16,000 members in California and over 120,000 members nationwide.

CMC applauds EPA's efforts to bring California into compliance with the Clean Water Act 303(c)(2)(B). Implementing numeric criteria that will protect the beneficial uses of California's waters is of great importance to the health of coastal and marine ecosystems, and so to CMC and its members. The reliance in many areas of the state on narrative criteria threatens the health of most of the state's waters, thereby impacting both human health and the health of the state's economy that relies on clean water.

While CMC strongly supports the swift adoption of an Enclosed Bays and Estuaries Plan and an Inland Surface Waters Plan that contain numeric criteria for toxic pollutants, CMC also is concerned that many of the specific criteria contained in the proposed rule are weaker than those contained in published guidance. CMC also believes that the proposed rule can better protect certain subpopulations from harm caused by consumption of contaminated fish and shellfish. Finally, CMC is concerned that the economic analysis of the proposed rule over-emphasizes costs and under-reports the many benefits of improving water quality throughout the state. These three points are reviewed below.

#### The Proposed Rule's Economic Analysis Over-Emphasizes Costs and Under reports the Benefits of Improving Water Quality Throughout the State

By EPA's own admission, the proposed rule's economic analysis over-reports costs and under-reports benefits. Specifically, the proposed rule states that "cost estimates for both scenarios, but especially for the high-end scenario, may be overstated because the analysis tended to use conservative assumptions."(\*8) Conversely, "numerous categories of potential or likely benefits have been omitted" from the analysis, and these omitted benefits "are likely to be significant contributors" to an "appreciable underestimation" of the overall benefits of the rule.(\*9) Categories left out of the benefits analysis include improvements in water-related, non-fishing recreation, improvements in land recreation, and improvements in human health resulting from reducing non-cancer risk.(\*10)

CMC believes it is possible to quantify many of these omitted benefits to obtain a more accurate picture of the importance of this rule. For example, a recent Santa Monica Bay Restoration Project Study found that people swimming close to storm drains face a 50% increase in their risk of contracting a variety of non-cancer ills such as gastroenteritis and ear and other infections. At a minimum, EPA's analysis could capture the benefits of improved water quality in terms of avoided sick days and avoided medical costs for such users.

CMC also believes that the economics analysis should consider other categories of benefits not mentioned at all in the proposed rule. For example, Governor Wilson's March 1997 planning document, California's Ocean Resources: An Agenda for the Future, finds that industries that depend on healthy coastal and ocean waters contribute \$17.3 billion to the state's economy each year and support 370,000 jobs. The majority of this total, \$10 billion, is from tourism, which is not mentioned in the proposed rule but which could benefit greatly from improved water quality. Such omitted benefits should be examined in order to have a more balanced economic analysis.

The adequacy of the proposed rule's economic analysis is important to the long-term implementation of the rule. As reported by EPA, "[t]he allegation that the State did not sufficiently consider economics when adopting Water quality objectives ... was an important issue in the litigation" that resulted in the rescission of the Enclosed Bays and Estuaries Plan and the Inland Surface Waters Plan.(\*11) Moreover, an accurate description of the benefits of the proposed rule is critical to obtaining funding and public support for swift implementation of the numeric criteria. CMC thus requests that the benefits analysis be updated where possible to parallel the acknowledged "conservative" approach used in estimating the costs of the proposed rule.

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(\*8) Id. at 42189.

(\*9) Id. at 42190.

(\*10) Id.

(\*11) Id. at 42165.

Response to: CTR-029-004b

EPA acknowledges that it was unable to monetize all categories of potential benefits from the rule. EPA provided a qualitative description of the expected benefits and those unmonetized benefits that may contribute most substantially to total benefits.

Illnesses contracted from swimming, such as those evaluated in the study of storm water drains in Santa Monica Bay, typically result from exposure to pathogens that will not be regulated under the CTR. Noncancer effects from the toxic pollutants that will be reduced by the rule are difficult to quantify because of a lack of information on the link between concentrations in the environment and potential cases of systemic effects.

Secondary benefits (e.g., tourism) or economic impacts embody the successive rounds of spending in an economy that result from the primary benefits of a regulation. These secondary benefits (or impacts) are estimated based on the analysis of data on interindustry linkages within a region. Although these impacts may be of relevance to policymakers, the inclusion of secondary benefits may be inappropriate. This is because under conditions of reasonably full employment, the resources placed into support services (or diverted from complying entities) would be diverted from (or redirected toward) other productive purposes (i.e., net jobs would not be created or lost for otherwise unemployed individuals but, rather, workers would be drawn to or away from other jobs). Thus, these secondary impacts represent a transfer or redistribution of resources rather than changes in real economic activity.

The benefits of water quality improvements are highly site specific and difficult to monetize due to

limitations in benefits methodology and accurate data on society's values for these improvements. For example, there are currently few means of linking consumption of toxic contaminants by humans with cases of systemic effects (as opposed to cancer effects, for which dose-response curves have been estimated). As another example, the contingent valuation (CV) is the only method for estimating passive use values, and CV surveys require substantial resources to conduct. As a result, there is limited data and information with which to estimate the benefits of the proposed rule. Since these values are not known, a parallel conservative approach is not possible. EPA presented the information on the limitations of the analysis (e.g., costs may be overstated and benefits may be understated) to assist decisionmakers in evaluating the results.

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Comment ID: CTR-092-023a

Comment Author: City of San Jose, California

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-02e Include Omitted Benefits

References: Letter CTR-092 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES E-021

E-02q

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Comment: Comment #7: General Benefit Analysis Concerns

The benefit analysis undertaken by EPA uses old, out-of-state data which does not appear applicable to California. A major concern with this analysis is that the benefit recipients are only a subset of those impacted by the costs. Another is that the benefits accrue to the public at large; costs, on the other hand, to the extent that CTR-implementation costs are borne by Indirect Dischargers (as assumed by EPA in the copper situation) accrue to businesses.

Further, the benefit measurements of "angling day" are only useful if they represent a net increase in fishing activity -- if all that improving waterway quality does is create additional sites where safe fishing can occur, without increasing the overall amount of fishing that occurs, there is no net gain, there is only substitution between comparable sites. The value of benefits which occur because of substitution between fishing sites must be subtracted from the value which occurs from increased fishing. This has not been done in the EPA analysis, thus benefits are overstated.

Further, no stratification is evident to account for importation of out-of-state fishers -- including benefit value of attracting new anglers from other states to California fishing sites is irrelevant to an analysis of costs/benefits of implementing the CTR for California.

Questions for EPA on Comment #7:

Q.7 - 1) If the concerns stated above were appropriately addressed, what would be the impact on EPA's benefits analysis? Our concern relates to the need to examine levels of regulation in comparison to benefits obtained, i.e. cost-effectiveness.

Q.7 - 2) Executive Order 12866, in recognition that quantification of benefits is very difficult, is quite

explicit about addressing qualitative benefits wherever possible why wasn't that done in this analysis?

Response to: CTR-092-023a

EPA was not able to locate more relevant or more recent data or research for the analysis. EPA solicited relevant data and information in the EA and proposal. In addition, in response to comments, EPA conducted an extensive search of the literature for any additional recent, California-specific data or information applicable to the benefits analysis. EPA reviewed and evaluated all data and information submissions, and the results of the literature search, and revised the EA and CTR as appropriate prior to promulgating the final rule.

Although it is true that the direct costs of the regulation are borne by municipal and industrial dischargers while the benefits accrue to the public at large, it is also true that in generating the discharges, the benefits (cost savings) accrued to businesses and municipalities while the costs (decreased utility associated with water resources) were borne by the public. Ultimately, benefits and costs are borne throughout society (e.g., costs are borne directly by municipal and industrial dischargers but indirectly by the public who pays for their products and services).

EPA acknowledged that increased angling activity at sites experiencing reductions in toxic contaminants may reflect a shift in activity from substitute sites rather than a net increase. Because EPA could not account for substitute sites in this analysis, EPA estimated lower bound benefits of \$0 (i.e., assuming no net increases in activity; see EA, Chapter 8).

EPA's estimate of the relevant angling population is based on resident California anglers (see Analysis of the Potential Benefits Related to Implementation of the California Toxics Rule, Draft, December 20, 1996, pp. 3-23, 3-35 to 3-36).

EPA revised its economic analysis in response to comments and to reflect any new data or changes to the proposal.

(EPA revised.....already part of text)....The estimated cost-effectiveness of the rule is expected to range from \$22/lb-eq to \$31/lb-eq. EPA expects the total annual, monetized benefits from implementation of the CTR to range from \$8.7 to \$40.8 million dollars.

Chapter 6 of the EA (Qualitative Assessment of Potential Ecological Benefits) provides a qualitative discussion of potential ecological benefits. EPA also provided a qualitative discussion of important benefit categories that it was not able to quantify or monetize (see the EA that accompanied the proposed rule, Chapter 8).

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Subject Matter Code: E-02f Use More Recent Data

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Comment ID: CTR-035-009a

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02f Use More Recent Data

References:

Attachments? N

CROSS REFERENCES E-02c

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Comment: We also question the estimates of the benefits derived in the draft Economic Analysis, and believe that more recent information specific to California should be collected and used. In particular, for most of the benefits, estimates are based on a comparison with waters which are completely free of contaminants or unimpaired, which is unrealistic. There is also little evaluation of the marginal benefits of the proposed rule (i.e. the benefits that would be realized as a result of marginal changes in contamination levels). While presumably achievement of the full reductions necessary to meet the CTR criteria in ambient waters is EPA's goal, EPA itself acknowledges that few of the benefits of the CTR are likely to be realized through point source controls, and the Agency fails to demonstrate how the water quality criteria promulgated by the CTR will be achieved.

Response to: CTR-035-009a

EPA considers Lyke's scenario (waters completely free of contaminants that may threaten human health) to be similar to a scenario in which all California waters meet the water quality standards established by the CTR. EPA has no information to show that these standards cannot be achieved. Thus, EPA used Lyke's results to estimate the total potential benefits of achieving standards. However, since point source controls alone may not be sufficient to achieve the standards throughout California, EPA allocated only a portion of the total benefits to the CTR.

EPA agrees that the study site for Lyke's research is substantially different from California waters. However, EPA's search of the literature indicated that there is no similar research for California or other more similar waters. Therefore, EPA applied Lyke's results to provide decisionmakers with information on the types and potential magnitude of the benefits from water quality improvements, rather than leaving this important benefit category unmonetized. EPA has no information to determine whether California residents may value toxic-free waters more or less than Wisconsin residents.

In addition, EPA believes that Lyke's scenario does not capture another component of potential value to current anglers that may result as reduced levels of toxic pollutants result in healthier sport fish populations. Lyke's survey asked anglers to consider a fishery that is free of contaminants that may threaten human health. However, fish are more sensitive than humans to some classes of toxic pollutants and fish populations may increase as contamination is reduced. To the extent that reducing toxic contamination results in a more satisfying angling experience in terms of increasing catch rates, achieving water quality standards may result in an increase in value to current anglers beyond that associated with reducing human health concerns.

Water quality improvements often involve thresholds such as action levels for fish consumption

advisories. However, water quality regulations often contribute only a portion of the improvement needed to surpass a threshold. Although individuals may (or may not) have a willingness to pay for incremental steps toward crossing a threshold, when the threshold is surpassed (e.g., fish consumption advisories are lifted), every action that contributed to the effort should be allocated a portion of the benefits. This was accomplished for the CTR by allocating a portion of the total toxic-free benefits (proportional to the reduction in loadings) to the implementation of point source controls under the CTR.

EPA's analysis presents only the portion of the total potential benefits that can be achieved by controlling point sources. EPA expects additional benefits will accrue as a result of controlling other sources. EPA has no reason to believe that the standards established by the CTR cannot be achieved.

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Comment ID: CTR-035-051b

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02f Use More Recent Data

References:

Attachments? N

CROSS REFERENCES E-02g

E-02k

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Comment: C. Benefits Analysis pp. 5-7 - 5-8 (U.S. EPA, 1997a) -- Attribution of Benefits to the Control of Point Sources

We applaud EPA's effort to analyze and report the proportion of the total benefits that might accrue due to the implementation of controls on point source NPDES dischargers in the benefits analysis (although we believe that this apportionment should have been carried through to the estimates of passive use benefits). We believe that it is appropriate to state the benefits that can be attributed to the estimated expenditures. We recognize, however, that there are many limitations in this approach, and that better data are needed. For instance, the pollutant loadings data used in this analysis were old and outdated (specifically, the Davis and NOAA studies contained data that are 10-15 years old). We urge EPA to update these studies with more recent data for the final Economic Analysis.

We believe that the benefits analysis illustrates that, in many instances, point source controls will not produce significant benefits. For instance, this is illustrated by the fact that the projected health benefits of the CTR in reducing both cancer and baseline systemic risks are minimal (see pp. 8-11 - 8-16, (U.S. EPA, 1997a)). Another example is illustrated by an examination of those water bodies for which fish consumption advisories have been issued. For those included on the State's 303(d) list, except for San Francisco Bay, the causes of impairment are largely listed by the SWRCB as nonpoint sources, including mining or resource extraction, agricultural drainage or runoff, urban stormwater runoff, or other unspecified nonpoint sources (SWRCB, 1996).

In addition, the analysis of benefits should highlight more clearly the fact that there may be little or no benefits in the near-term due to long-term environmental persistence of existing contamination. As EPA itself acknowledges on p. 5-8 (U.S. EPA, 1997a), "historical loads may, in some instances, be the predominant source of toxics-related water quality problems. In such instances, efforts to control current

discharges may be of relatively limited effectiveness and value." It is well-documented that some substances, such as DDT and PCBs, which have been banned for two or more decades, still persist in the environment; thus, the likelihood of the CTR substantially reducing loadings and producing benefits is minimal.

Response to: CTR-035-051b

As described in the EA (Chapter 8), research provides empirical evidence of the passive use values associated with improved water quality and fisheries. Research also indicates that these values are at least half as great as recreational values, such that if they are potentially applicable to a policy action, providing a rough approximation is preferable, with proper caveats, to omitting them from the analysis of benefits and costs. EPA believes that the studies used to calculate the ratio of passive use to use value are applicable to the CTR (see also comment and response CTR-029-009).

Therefore, EPA applies a ratio of .5 to obtain an estimate of passive use values for those households that have active recreational anglers. Based on a review of the literature, on studies that estimate resource values for users and non-users (see the revised economic analysis), EPA believes that non-angling households do indeed have a passive use value. To determine a lower-bound estimate of passive use values for non-angling households, EPA assumed that the value may be 30% of the value for angling households. For analysis of the final CTR, EPA revised the upper-bound estimate assuming that the passive use value of non-angling households may be 90% of those for angling households. This revision is based on a study by Loomis et al. (1991), who estimated the benefits of improved fishery, wetland, and waterfowl resources in the San Joaquin Valley to users and nonusers residing in California.

By multiplying a ratio of passive use to use value by recreational fishing values, which EPA apportioned to reflect the relative contribution of point sources, EPA also accounted for attribution in its estimate of passive use values.

For the EA that accompanied the proposal, EPA conducted an extensive search of the literature for more recent data or information related to the relative contributions of various sources to water quality impairments. In the EA accompanying the proposal, EPA solicited additional data, however, none was received. In revising the EA for the final rulemaking, EPA conducted an additional extensive search of the literature and research efforts at California universities for relevant information. EPA has incorporated any new information into the revised EA for the final rule.

The standards established in the CTR apply to all waterbodies. EPA currently only applies water quality based effluent limits to point sources, and thus the estimate of post-regulation risk levels reflect only the potential impact of controls on point sources. However, controls will also be required of other sources in the future. As controls on other sources are implemented (e.g., remediation of contaminated sediments; best management practices to control storm water discharges and runoff from agricultural land), EPA expects that concentrations in fish tissue will decline further and that the standards established by the CTR to protect human health can be achieved.

EPA also believes that the risk reducing impact of the regulation on point sources may not be fully illustrated by EPA's analysis which reflects only a small sample of point source dischargers. That is, although baseline risk levels are based on actual fish tissue concentrations, post-regulation risk levels are estimated by examining the potential for reducing loadings at a sample of facilities. Pollutants responsible for much of the baseline health risk at specific sites, such as popular fishing areas in San Francisco Bay, may be found in point sources effluents, however, the facilities discharging these pollutants may not be included in the sample.

Although the standards established by the CTR apply to all sources, EPA's analysis examined only the portion of benefits expected to be achieved by controlling point sources. EPA estimated the point source share of benefits based on data and information on the relative contribution of all sources to toxic loadings in California waters. Although point sources may account for only a small portion of the load in some waters, they may account for relatively larger portions at some sites, and point source controls will contribute to meeting standards in the water bodies.

EPA recognizes the persistence of some of the substances addressed by the CTR (e.g., DDT and PCBs) and the impact of this persistence on the realization of benefits. In the EA (Chapter 9), EPA accounted for this lag by assuming 10- and 20-year phase-in periods for benefits in its comparison of present value benefits and costs.

In addition, EPA believes that point source controls can factor into pollutant reduction scenarios, although the cost-effectiveness of point and nonpoint source controls are likely to be highly site specific. Potential "hidden" loads (contaminant concentrations which are not currently measured because they are below detection levels) from point sources may also be occurring and may increase the potential benefits of point source controls. In addition, point source loadings reductions will reduce future sediment contamination and, thereby, reduce the need for costly site-specific sediment remediation in the future. Therefore, the CTR can be viewed as both reducing current environmental risks (yielding benefits) by reducing current loadings, and reducing future environmental cleanup costs.

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Comment ID: CTR-045-010

Comment Author: Sausalito-Marín Sanitary Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: E-02f Use More Recent Data

References:

Attachments? Y

**CROSS REFERENCES**

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Comment: For the benefits analysis, EPA should utilize more California-specific and recent information.

Response to: CTR-045-010

EPA was not able to locate more relevant or more recent data or research for the analysis. EPA solicited relevant data and information in the EA and proposal. In addition, in response to comments, EPA conducted an extensive search of the literature for any additional recent, California-specific data or information applicable to the benefits analysis. EPA reviewed and evaluated all data and information submissions, and the results of the literature search, and revised the EA and CTR as appropriate prior to promulgating the final rule.

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Comment ID: CTR-056-021

Comment Author: East Bay Municipal Util. Dist.

Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: E-02f Use More Recent Data  
References: Letter CTR-056 incorporates by reference letter CTR-054  
Attachments? N  
**CROSS REFERENCES**

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Comment: Regarding the benefits analysis, EPA should use more recent information and information specific to the state of California to develop their assessment of the value of the benefits resulting from the implementation of the CTR. We believe that by considering these two factors alone, the benefit value is more likely to be on the low side of the \$1.5 to \$51.7 million/year estimate provided by EPA. Also, a consideration which was not included as an adverse side-effect of enhancing beneficial uses of inland surface waters and enclosed bays and estuaries is the increased pollutant loading along the margins of the water body linked to increased recreational activities (e.g. increased pollution associated with recreational boating).

Response to: CTR-056-021

EPA was not able to locate more relevant or more recent data or research for the analysis. EPA solicited relevant data and information in the EA and proposal. In addition, in response to comments, EPA conducted an extensive search of the literature for any additional recent, California-specific data or information applicable to the benefits analysis. EPA reviewed and evaluated all data and information submissions, and the results of the literature search, and revised the EA and CTR as appropriate prior to promulgating the final rule.

EPA believes that the environmental impacts of the pollutants regulated by the CTR far exceed those associated with recreational boating, and that pollutants generated by boating are already regulated to ensure minimal impacts on water resources.

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Comment ID: CTR-066-014  
Comment Author: Delta Diablo Sanitation Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-02f Use More Recent Data  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: The areas with which we find concerns and the requested changes include the following:

\* With regard to the benefits analysis, we believe EPA should utilize more California-specific and recent information.

Response to: CTR-066-014

EPA was not able to locate more relevant or more recent data or research for the analysis. EPA solicited relevant data and information in the EA and proposal. In addition, in response to comments, EPA conducted an extensive search of the literature for any additional recent, California-specific data or information applicable to the benefits analysis. EPA reviewed and evaluated all data and information submissions, and the results of the literature search, and revised the EA and CTR as appropriate prior to promulgating the final rule.

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Comment ID: CTR-082-008

Comment Author: City of Burbank

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: E-02f Use More Recent Data

References:

Attachments? N

CROSS REFERENCES

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Comment: The subject rule has a significant impact on our facility discharge and the citizens of the City. We therefore present the following comments for your consideration to re-open the comment period for this rule in order to facilitate a more complete review by public and in particular by those in the POTW community:

\* For the benefits analysis, EPA should utilize more California-specific and recent information.

Response to: CTR-082-008

EPA was not able to locate more relevant or more recent data or research for the analysis. EPA solicited relevant data and information in the EA and proposal. In addition, in response to comments, EPA conducted an extensive search of the literature for any additional recent, California-specific data or information applicable to the benefits analysis. EPA reviewed and evaluated all data and information submissions, and the results of the literature search, and revised the EA and CTR as appropriate prior to promulgating the final rule.

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Comment ID: CTR-085-017

Comment Author: Camarillo Sanitary District

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: E-02f Use More Recent Data

References:

Attachments? N

CROSS REFERENCES

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Comment: The District supports the following positions of CASA and SCAP where changes need to be

made in the proposed California Toxics Rule:

\* For the benefit analysis, the EPA should utilize more California-specific and recent information.

Response to: CTR-085-017

EPA was not able to locate more relevant or more recent data or research for the analysis. EPA solicited relevant data and information in the EA and proposal. In addition, in response to comments, EPA conducted an extensive search of the literature for any additional recent, California-specific data or information applicable to the benefits analysis. EPA reviewed and evaluated all data and information submissions, and the results of the literature search, and revised the EA and CTR as appropriate prior to promulgating the final rule.

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Subject Matter Code: E-02g Benefits & Poll. Reduction

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Comment ID: CTR-035-051a

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02g Benefits & Poll. Reduction

References:

Attachments? N

CROSS REFERENCES E-02f

E-02k

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Comment: C. Benefits Analysis pp. 5-7 - 5-8 (U.S. EPA, 1997a) -- Attribution of Benefits to the Control of Point Sources

We applaud EPA's effort to analyze and report the proportion of the total benefits that might accrue due to the implementation of controls on point source NPDES dischargers in the benefits analysis (although we believe that this apportionment should have been carried through to the estimates of passive use benefits). We believe that it is appropriate to state the benefits that can be attributed to the estimated expenditures. We recognize, however, that there are many limitations in this approach, and that better data are needed. For instance, the pollutant loadings data used in this analysis were old and outdated (specifically, the Davis and NOAA studies contained data that are 10-15 years old). We urge EPA to update these studies with more recent data for the final Economic Analysis.

We believe that the benefits analysis illustrates that, in many instances, point source controls will not produce significant benefits. For instance, this is illustrated by the fact that the projected health benefits of the CTR in reducing both cancer and baseline systemic risks are minimal (see pp. 8-11 - 8-16, (U.S. EPA, 1997a)). Another example is illustrated by an examination of those water bodies for which fish consumption advisories have been issued. For those included on the State's 303(d) list, except for San Francisco Bay, the causes of impairment are largely listed by the SWRCB as nonpoint sources, including mining or resource extraction, agricultural drainage or runoff, urban stormwater runoff, or other unspecified nonpoint sources (SWRCB, 1996).

In addition, the analysis of benefits should highlight more clearly the fact that there may be little or no benefits in the near-term due to long-term environmental persistence of existing contamination. As EPA itself acknowledges on p. 5-8 (U.S. EPA, 1997a), "historical loads may, in some instances, be the predominant source of toxics-related water quality problems. In such instances, efforts to control current discharges may be of relatively limited effectiveness and value." It is well-documented that some substances, such as DDT and PCBs, which have been banned for two or more decades, still persist in the environment; thus, the likelihood of the CTR substantially reducing loadings and producing benefits is minimal.

Response to: CTR-035-051a

As described in the EA (Chapter 8), research provides empirical evidence of the passive use values associated with improved water quality and fisheries. Research also indicates that these values are at least half as great as recreational values, such that if they are potentially applicable to a policy action,

providing a rough approximation is preferable, with proper caveats, to omitting them from the analysis of benefits and costs. EPA believes that the studies used to calculate the ratio of passive use to use value are applicable to the CTR (see also comment and response CTR-026-009).

Therefore, EPA applies a ratio of .5 to obtain an estimate of passive use values for those households that have active recreational anglers. Based on a review of the literature, EPA believes that non-angling household do indeed have a passive use value. To determine a lower-bound estimate of passive use values for non-angling households, EPA assumed that the value may be 30% of the value for angling households. For analysis of the final CTR, EPA revised the upper-bound estimate assuming that the passive use value of non-angling households may be 90% of those for angling households. This revision is based on a study by Loomis et al. (1991), who estimated the benefits of improved fishery, wetland, and waterfowl resources in the San Joaquin Valley to users and nonusers residing in California.

By multiplying a ratio of passive use to use value by recreational fishing values, which EPA apportioned to reflect the relative contribution of point sources, EPA also accounted for attribution in its estimate of passive use values.

For the EA that accompanied the proposal, EPA conducted an extensive search of the literature for more recent data or information related to the relative contributions of various sources to water quality impairments. In the EA accompanying the proposal, EPA solicited additional data, however, none was received. In revising the EA for the final rulemaking, EPA conducted an additional extensive search of the literature and research efforts at California universities for relevant information. EPA has incorporated any new information into the revised EA for the final rule.

The standards established in the CTR apply to all California inland surface waters and enclosed bays and estuaries. EPA currently only applies water quality based effluent limits to point sources, and thus the estimate of post-regulation risk levels reflect only the potential impact of controls on point sources. However, controls will also be required of other sources in the future. As controls on other sources are implemented (e.g., remediation of contaminated sediments; best management practices to control storm water discharges and runoff from agricultural land), EPA expects that concentrations in fish tissue will decline further and that the standards established by the CTR to protect human health can be achieved.

EPA also believes that the risk reducing impact of the regulation on point sources may not be fully illustrated by EPA's analysis which reflects only a small sample of point source dischargers. That is, although baseline risk levels are based on actual fish tissue concentrations, post-regulation risk levels are estimated by examining the potential for reducing loadings at a sample of facilities. Pollutants responsible for much of the baseline health risk at specific sites, such as popular fishing areas in San Francisco Bay, may be found in point sources effluents, however, the facilities discharging these pollutants may not be included in the sample.

Although the standards established by the CTR apply to all sources, EPA's analysis examined only the portion of benefits expected to be achieved by controlling point sources. EPA estimated the point source share of benefits based on data and information on the relative contribution of all sources to toxic loadings in California waters. Although point sources may account for only a small portion of the load in some waters, they may account for relatively larger portions at some sites, and point source controls will contribute to meeting standards in the water bodies.

EPA recognizes the persistence of some of the substances addressed by the CTR (e.g., DDT and PCBs) and the impact of this persistence on the realization of benefits. In the EA (Chapter 9), EPA accounted for this lag by assuming 10- and 20-year phase-in periods for benefits in its comparison of present value

benefits and costs.

In addition, EPA believes that point source controls can factor into pollutant reduction scenarios, although the cost-effectiveness of point and nonpoint source controls are likely to be highly site specific. Potential "hidden" loads (contaminant concentrations which are not currently measured because they are below detection levels) from point sources may also be occurring and may increase the potential benefits of point source controls. In addition, point source loadings reductions will reduce future sediment contamination and, thereby, reduce the need for costly site-specific sediment remediation in the future. Therefore, the CTR can be viewed as both reducing current environmental risks (yielding benefits) by reducing current loadings, and reducing future environmental cleanup costs.

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Comment ID: CTR-035-066

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02g Benefits & Poll. Reduction

References:

Attachments? N

CROSS REFERENCES

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Comment: \* The Analysis suggests that the proposed reductions in point source discharges may not result in any benefits. As indicated by USEPA, "...the estimates presented here do not make direct causal links between point source controls and the stated benefits..."

Response to: CTR-035-066

EPA recognizes that the benefits of the rule will not occur immediately, and has estimated lags in the realization of benefits. However, EPA believes that the standards established by the CTR can be achieved through point source controls and will result in attaining designated uses of the water bodies, and that the estimated benefits are illustrative of the types and potential benefits to be achieved from attaining these uses.

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Comment ID: CTR-040-044

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02g Benefits & Poll. Reduction

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: EPA's estimate of reduced cancer benefits (\$5.3 million annually under the high-end scenario)

is suspect because the analysis does not show that the pollutant upon which the benefits are based (DDT) will be reduced (or sufficiently reduced) as a result of the CTR to lead to the estimated reduction in cancer cases.

Response to: CTR-040-044

To calculate potential human health risk reduction benefits, EPA first calculated baseline risk levels using actual contaminant concentrations found in fish tissue. EPA then multiplied the baseline risk levels by the estimated reduction in loadings expected to result from the implementation of point source controls and by the relative contribution of point source loadings to total loadings. For DDT, EPA estimated a 68.8% reduction in point source loadings under the high end cost estimate and a 0% reduction in point source loadings under the low end cost estimate. EPA's estimate of human health benefits reflects these estimated reductions. For example, potential cancer-related benefits to recreational anglers range from \$0 to \$4.2 million for freshwater resources and total \$0 for San Francisco Bay.

In addition, the risk reducing impact of the regulation on point sources may not be fully illustrated by EPA's analysis which reflects only a small sample of point source dischargers. That is, although baseline risk levels are based on actual fish tissue concentrations, post-regulation risk levels are estimated by examining the potential for reducing loadings at a sample of facilities. Pollutants responsible for much of the baseline health risk at specific sites, such as popular fishing areas in San Francisco Bay, may be found in point source effluents, however, the facilities discharging these pollutants may not be included in the sample.

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Comment ID: CTR-041-040  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-02g Benefits & Poll. Reduction  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: EPA's estimate of reduced cancer benefits (\$5.3 million annually under the high-end scenario) is suspect because the analysis does not show that the pollutant upon which the benefits are based (DDT) will be reduced (or sufficiently reduced) as a result of the CTR to lead to the estimated reduction in cancer cases.

Response to: CTR-041-040

To calculate potential human health risk reduction benefits, EPA first calculated baseline risk levels using actual contaminant concentrations found in fish tissue. EPA then multiplied the baseline risk levels by the estimated reduction in loadings expected to result from the implementation of point source controls and by the relative contribution of point source loadings to total loadings. For DDT, EPA estimated a 68.8% reduction in point source loadings under the high end cost estimate and a 0% reduction in point source loadings under the low end cost estimate. EPA's estimate of human health benefits reflects these estimated reductions. For example, potential cancer-related benefits to recreational

anglers range from \$0 to \$4.2 million for freshwater resources and total \$0 for San Francisco Bay.

In addition, the risk reducing impact of the regulation on point sources may not be fully illustrated by EPA's analysis which reflects only a small sample of point source dischargers. That is, although baseline risk levels are based on actual fish tissue concentrations, post-regulation risk levels are estimated by examining the potential for reducing loadings at a sample of facilities. Pollutants responsible for much of the baseline health risk at specific sites, such as popular fishing areas in San Francisco Bay, may be found in point source effluents, however, the facilities discharging these pollutants may not be included in the sample.

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Comment ID: CTR-044-035

Comment Author: City of Woodland

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-02g Benefits & Poll. Reduction

References:

Attachments? N

CROSS REFERENCES

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Comment: EPA's estimate of reduced cancer benefits (\$5.3 million annually under the high-end scenario) is suspect because the analysis does not show that the pollutant upon which the benefits are based (DDT) will be reduced (or sufficiently reduced) as a result of the CTR to lead to the estimated reduction in cancer cases.

Response to: CTR-044-035

To calculate potential human health risk reduction benefits, EPA first calculated baseline risk levels using actual contaminant concentrations found in fish tissue. EPA then multiplied the baseline risk levels by the estimated reduction in loadings expected to result from the implementation of point source controls and by the relative contribution of point source loadings to total loadings. For DDT, EPA estimated a 68.8% reduction in point source loadings under the high end cost estimate and a 0% reduction in point source loadings under the low end cost estimate. EPA's estimate of human health benefits reflects these estimated reductions. For example, potential cancer-related benefits to recreational anglers range from \$0 to \$5.3 million for freshwater resources and total \$0 for San Francisco Bay.

In addition, the risk reducing impact of the regulation on point sources may not be fully illustrated by EPA's analysis which reflects only a small sample of point source dischargers. That is, although baseline risk levels are based on actual fish tissue concentrations, post-regulation risk levels are estimated by examining the potential for reducing loadings at a sample of facilities. Pollutants responsible for much of the baseline health risk at specific sites, such as popular fishing areas in San Francisco Bay, may be found in point source effluents, however, the facilities discharging these pollutants may not be included in the sample.

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Comment ID: CTR-054-039

Comment Author: Bay Area Dischargers Associati

Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-02g Benefits & Poll. Reduction  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: EPA's estimate of reduced cancer benefits (\$5.3 million annually under the high-end scenario) is suspect because the analysis does not show that the pollutant upon which the benefits are based (DDT) will be reduced (or sufficiently reduced) as a result of the CTR to lead to the estimated reduction in cancer cases.

Response to: CTR-054-039

To calculate potential human health risk reduction benefits, EPA first calculated baseline risk levels using actual contaminant concentrations found in fish tissue. EPA then multiplied the baseline risk levels by the estimated reduction in loadings expected to result from the implementation of point source controls and by the relative contribution of point source loadings to total loadings. For DDT, EPA estimated a 68.8% reduction in point source loadings under the high end cost estimate and a 0% reduction in point source loadings under the low end cost estimate. EPA's estimate of human health benefits reflects these estimated reductions. For example, potential cancer-related benefits to recreational anglers range from \$0 to \$5.3 million for freshwater resources and total \$0 for San Francisco Bay.

In addition, the risk reducing impact of the regulation on point sources may not be fully illustrated by EPA's analysis which reflects only a small sample of point source dischargers. That is, although baseline risk levels are based on actual fish tissue concentrations, post-regulation risk levels are estimated by examining the potential for reducing loadings at a sample of facilities. Pollutants responsible for much of the baseline health risk at specific sites, such as popular fishing areas in San Francisco Bay, may be found in point source effluents, however, the facilities discharging these pollutants may not be included in the sample.

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Subject Matter Code: E-02h Un-Enclose,Enclose Bay Data

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Comment ID: CTR-035-053

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02h Un-Enclose,Enclose Bay Data

References:

Attachments? N

CROSS REFERENCES

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Comment: pp. 7-12 - 7-14 (U.S. EPA, 1997c) -- Extrapolation from Non-Enclosed Bays to Enclosed Bays

EPA assumed that the data from the 1988 NOAA study on 5 bays (San Diego, Humboldt, Monterey, Santa Monica, and San Pedro) could be readily extrapolated for enclosed bays. We believe that there are serious flaws in this approach, and that the data for the non-enclosed bays should be removed from the data set. We are most familiar with Santa Monica Bay, which has been heavily studied, including several specialized studies since that time. The basic problem with including data such as that for Santa Monica Bay in the data set is that the mass loading data are undoubtedly dominated by data for 2 large ocean discharge POTWs (each greater than or equal to 350 MGD), which would likely not be allowed to discharge into enclosed bays, thus skewing the assumptions towards a greater influence from POTWs on these bays than really occurs. If EPA examines the SWRCB's 1996 303(d) list, information is provided for many of these water bodies indicating what types of discharges are the likely sources of the pollution problems, which we believe will confirm this.

Response to: CTR-035-053

The NOAA data included five bays (San Diego, Humboldt, Monterey, Santa Monica, and San Pedro), two of which are actually covered by the CTR (San Diego and Humboldt). EPA assumed that the data for the nonenclosed bays generally will be applicable to enclosed bays. If EPA had excluded those bays not covered by the rule, the attribution assumption for point sources would actually be higher (see EA, p. 7-4). For example, for urban bays, the toxic-weighted average contribution of point sources is higher for the enclosed bay covered by the rule (San Diego Bay; 91%) compared to the nonenclosed bays (Santa Monica and San Pedro, at 88% and 83%, respectively). EPA employed toxicity-weighting to estimate relative source contribution because the toxicity of the discharge, more than volume, will influence its impact on receiving waters. The California 1996 303(d) report lists both point and nonpoint sources as probable sources of pollution for Santa Monica Bay. The list of pollutants and stressors for Santa Monica Bay includes metals, DDT, and PCBs.

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Comment ID: CTR-035-070

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02h Un-Enclose,Enclose Bay Data

References:

Attachments? N

CROSS REFERENCES

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Comment: \* Even more than the cost analysis, benefits would appear to be site-specific. Uses of water bodies varies considerable, as does the contribution of point, non-point, and natural sources to toxic contamination. As a result, there is likely a mismatch between the total estimated benefits, and the distribution of these benefits throughout the state, as well as the costs of obtaining water body-specific benefits (e.g., costs could be disproportionately felt in areas with little benefit).

For example, USEPA's assumptions about urban bays other than San Francisco are based on a National Oceanic and Atmospheric Administration (NOAA) report that examined five bays: Humboldt, Monterey, San Diego, San Pedro, and Santa Monica, of which only Humboldt and San Diego are covered by the Rule. USEPA assumption that the data for the non-enclosed bays is generally applicable to enclosed bays may not be supportable as a result of differences in dilution factors and the contribution of non-point sources.

Response to: CTR-035-070

EPA agrees that benefits are likely to be highly site specific. However, sites likely to experience a disproportionate share of the benefits are also likely to incur a disproportionate share of the costs.

In addition, once water quality standards are in place, sites that are currently less impacted by toxic pollutants may experience cost savings by preventing future cleanup costs. That is, it may be more cost-effective to prevent toxic pollutants from entering surface waters than to clean up and remediate the impacts once toxic pollutants are released. However, should the State determine through a total maximum daily load (TMDL) allocation that controls on nonpoint sources are a more cost-effective approach to achieving standards, the State can redistribute the allocations through the TMDL process.

The NOAA data included five bays (San Diego, Humboldt, Monterey, Santa Monica, and San Pedro), two of which are actually covered by the CTR (San Diego and Humboldt). EPA assumed that the data for the nonenclosed bays generally will be applicable to enclosed bays. If EPA had excluded those bays not covered by the rule, the attribution assumption for point sources would actually be higher (see EA, p. 7-4). For example, for urban bays, the toxic-weighted average contribution of point sources is higher for the enclosed bay covered by the rule (San Diego Bay; 91%) compared to the nonenclosed bays (Santa Monica and San Pedro, at 88% and 83%, respectively). EPA employed toxicity-weighting to estimate relative source contribution because the toxicity of the discharge, more than volume, will influence its impact on receiving waters. The California 1996 303(d) report lists both point and nonpoint sources as probable sources of pollution for Santa Monica Bay. The list of pollutants and stressors for Santa Monica Bay includes metals, DDT, and PCBs.

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Subject Matter Code: E-02i Impaired Waters Assumptions

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Comment ID: CTR-035-054  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-02i Impaired Waters Assumptions  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: p. 8-18 (U.S. EPA, 1997a) --Assumptions Regarding Impaired Waters EPA explains on p. 8-18 how it extrapolated from the State's 305(b) Report to create estimates for all waters. We believe that EPA should have consulted the SWRCB to determine the general locations of unassessed/unmonitored waters so that logical assumptions could be made. Assumptions about water quality conditions would be very different, for instance, if they are mostly Central Valley agricultural drains than if they are streams in the Sierra Nevada or northern California mountains.

Response to: CTR-035-054

EPA did consult with SWRCB staff concerning appropriate assumptions about unassessed waters. The SWRCB considered EPA's assumptions reasonable for estimating the extent of toxic impairment in unassessed waters.

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Comment ID: CTR-040-046  
Comment Author: County of Sacramento Water Div  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-02i Impaired Waters Assumptions  
References: Letter CTR-040 incorporates by reference letter CTR-027  
Attachments? Y

**CROSS REFERENCES**

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Comment: The value of recreational angling was multiplied by 50% to obtain \$4.3 million annually for passive use benefits. The Wisconsin study, therefore, was the basis for \$12.9 million, or 2.5% of the \$51.7 million in total benefits.

EPA's estimate of increased angler participation (\$1 .5 million annually under the high-end scenario) is based on the unsupported assumption that reducing pollution causes more people to fish. It is just as likely that it does not.

Response to: CTR-040-046

EPA acknowledges that applying Lyke's results to all California waters affected by toxics may overstate potential benefits (see EA Chapter 8). Anglers may or may not be aware of toxic contamination in the absence of fish consumption advisories. EPA acknowledges the limitations in the application of Lyke's research. However, EPA chose this approach to provide illustration of the potential magnitude of recreational angling values rather than leave this important benefit category unmonetized.

In addition, EPA believes that Lyke's scenario does not capture another component of potential value to current anglers that may result as reduced levels of toxic pollutants result in healthier sport fish populations. Lyke's survey asked anglers to consider a fishery that is free of contaminants that may threaten human health. However, fish are more sensitive than humans to some classes of toxic pollutants and fish populations may increase as contamination is reduced. To the extent that reducing toxic contamination results in a more satisfying angling experience in terms of increasing catch rates, achieving water quality standards may result in an increase in value to current anglers beyond that associated with reducing human health concerns.

EPA first applied Lyke's research in its analysis of the potential benefits of the Great Lakes Water Quality Guidance. Calculation of the range of results is explained in U.S. EPA (1993). Lyke estimated the Wisconsin Great Lakes open water sport fishery to be worth between \$339 and \$424 per licensed angler, resulting in an estimated consumer surplus associated with the fishery of between \$66.6 million and \$83.3 million annually. Lyke obtained values for a contaminant-free fishery ranging from \$7.4 million to \$26.1 million per year, with the range in results attributable to whether a linear or constant elasticity of scale functional form is used in the estimation. These results reflect between 11.1% and 31.3% of the value of the fishery under current conditions, which is the range of values EPA used in analysis of the CTR.

EPA acknowledges that Lyke-based benefits represent a substantial portion of total benefits and supports these benefits estimates. (See also comment and response to CTR-035-009a.)

U.S. EPA, 1993. Regulatory Impact Analysis of the Proposed Great Lakes Water Quality Guidance. Final Report, April 15.

EPA estimated the percentage of California waters impaired by toxic pollutants based on water quality assessments developed by the State Water Resources Control Boards. EPA defined toxic-impaired waters as those rated medium or poor for one or more toxic pollutants or group of pollutants. Research (e.g., Lyke, 1993) indicates that the recreational value of water resources may be substantially enhanced by reducing toxic contamination.

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Comment ID: CTR-041-042  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-02i Impaired Waters Assumptions  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: The value of recreational angling was multiplied by 50% to obtain \$4.3 million annually for passive use benefits. The Wisconsin study, therefore, was the basis for \$12.9 million, or 2.5% of the \$51.7 million in total benefits.

EPA's estimate of increased angler participation (\$1.5 million annually under the high-end scenario) is based on the unsupported assumption that reducing pollution causes more people to fish. It is just as likely that it does not.

Response to: CTR-041-042

EPA acknowledges that applying Lyke's results to all California waters affected by toxics may overstate potential benefits (see EA Chapter 8). Anglers may or may not be aware of toxic contamination in the absence of fish consumption advisories. EPA acknowledges the limitations in the application of Lyke's research. However, EPA chose this approach to provide illustration of the potential magnitude of recreational angling values rather than leave this important benefit category unmonetized.

In addition, EPA believes that Lyke's scenario does not capture another component of potential value to current anglers that may result as reduced levels of toxic pollutants result in healthier sport fish populations. Lyke's survey asked anglers to consider a fishery that is free of contaminants that may threaten human health. However, fish are more sensitive than humans to some classes of toxic pollutants and fish populations may increase as contamination is reduced. To the extent that reducing toxic contamination results in a more satisfying angling experience in terms of increasing catch rates, achieving water quality standards may result in an increase in value to current anglers beyond that associated with reducing human health concerns.

EPA first applied Lyke's research in its analysis of the potential benefits of the Great Lakes Water Quality Guidance. Calculation of the range of results is explained in U.S. EPA (1993). Lyke estimated the Wisconsin Great Lakes open water sport fishery to be worth between \$339 and \$424 per licensed angler, resulting in an estimated consumer surplus associated with the fishery of between \$66.6 million and \$83.3 million annually. Lyke obtained values for a contaminant-free fishery ranging from \$7.4 million to \$26.1 million per year, with the range in results attributable to whether a linear or constant elasticity of scale functional form is used in the estimation. These results reflect between 11.1% and 31.3% of the value of the fishery under current conditions, which is the range of values EPA used in analysis of the CTR.

EPA acknowledges that Lyke-based benefits represent a substantial portion of total benefits and supports these benefits estimates. (See also comment and response to CTR-035-009a.)

U.S. EPA, 1993. Regulatory Impact Analysis of the Proposed Great Lakes Water Quality Guidance. Final Report, April 15.

EPA estimated the percentage of California waters impaired by toxic pollutants based on water quality assessments developed by the State Water Resources Control Boards. EPA defined toxic-impaired waters as those rated medium or poor for one or more toxic pollutants or group of pollutants. Research (e.g., Lyke, 1993) indicates that the recreational value of water resources may be substantially enhanced by reducing toxic contamination.

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Comment ID: CTR-044-037

Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-02i Impaired Waters Assumptions  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: The value of recreational angling was multiplied by 50% to obtain \$4.3 million annually for passive use benefits. The Wisconsin study, therefore, was the basis for \$12.9 million, or 2.5% of the \$51.7 million in total benefits.

EPA's estimate of increased angler participation (\$1.5 million annually under the high-end scenario) is based on the unsupported assumption that reducing pollution causes more people to fish. It is just as likely that it does not.

Response to: CTR-044-037

EPA acknowledges that applying Lyke's results to all California waters affected by toxics may overstate potential benefits (see EA p. 8-17). Anglers may or may not be aware of toxic contamination in the absence of fish consumption advisories. EPA acknowledges the limitations in the application of Lyke's research. However, EPA chose this approach to provide illustration of the potential magnitude of recreational angling values rather than leave this important benefit category unmonetized.

In addition, EPA believes that Lyke's scenario does not capture another component of potential value to current anglers that may result as reduced levels of toxic pollutants result in healthier sport fish populations. Lyke's survey asked anglers to consider a fishery that is free of contaminants that may threaten human health. However, fish are more sensitive than humans to some classes of toxic pollutants and fish populations may increase as contamination is reduced. To the extent that reducing toxic contamination results in a more satisfying angling experience in terms of increasing catch rates, achieving water quality standards may result in an increase in value to current anglers beyond that associated with reducing human health concerns.

EPA first applied Lyke's research in its analysis of the potential benefits of the Great Lakes Water Quality Guidance. Calculation of the range of results is explained in U.S. EPA (1993). Lyke estimated the Wisconsin Great Lakes open water sport fishery to be worth between \$339 and \$424 per licensed angler, resulting in an estimated consumer surplus associated with the fishery of between \$66.6 million and \$83.3 million annually. Lyke obtained values for a contaminant-free fishery ranging from \$7.4 million to \$26.1 million per year, with the range in results attributable to whether a linear or constant elasticity of scale functional form is used in the estimation. These results reflect between 11.1% and 31.3% of the value of the fishery under current conditions, which is the range of values EPA used in analysis of the CTR.

EPA acknowledges that Lyke-based benefits represent a substantial portion of total benefits and supports these benefits estimates. (See also comment and response to Issue 3.)

U.S. EPA, 1993. Regulatory Impact Analysis of the Proposed Great Lakes Water Quality Guidance. Final

Report, April 15.

EPA estimated the percentage of California waters impaired by toxic pollutants based on water quality assessments developed by the State Water Resources Control Boards. EPA defined toxic-impaired waters as those rated medium or poor for one or more toxic pollutants or group of pollutants. Research (e.g., Lyke, 1993) indicates that the recreational value of water resources may be substantially enhanced by reducing toxic contamination.

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Comment ID: CTR-054-041

Comment Author: Bay Area Dischargers Associati

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02i Impaired Waters Assumptions

References:

Attachments? N

**CROSS REFERENCES**

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Comment: The value of recreational angling was multiplied by 50% to obtain \$4.3 million annually for passive use benefits. The Wisconsin study, therefore, was the basis for \$12.9 million, or 2.5% of the \$51.7 million in total benefits.

EPA's estimate of increased angler participation (\$1.5 million annually under the high-end scenario) is based on the unsupported assumption that reducing pollution causes more people to fish. It is just as likely that it does not.

Response to: CTR-054-041

EPA acknowledges that applying Lyke's results to all California waters affected by toxics may overstate potential benefits (see EA p. 8-17). Anglers may or may not be aware of toxic contamination in the absence of fish consumption advisories. EPA acknowledges the limitations in the application of Lyke's research. However, EPA chose this approach to provide illustration of the potential magnitude of recreational angling values rather than leave this important benefit category unmonetized.

In addition, EPA believes that Lyke's scenario does not capture another component of potential value to current anglers that may result as reduced levels of toxic pollutants result in healthier sport fish populations. Lyke's survey asked anglers to consider a fishery that is free of contaminants that may threaten human health. However, fish are more sensitive than humans to some classes of toxic pollutants and fish populations may increase as contamination is reduced. To the extent that reducing toxic contamination results in a more satisfying angling experience in terms of increasing catch rates, achieving water quality standards may result in an increase in value to current anglers beyond that associated with reducing human health concerns.

EPA first applied Lyke's research in its analysis of the potential benefits of the Great Lakes Water Quality Guidance. Calculation of the range of results is explained in U.S. EPA (1993). Lyke estimated the Wisconsin Great Lakes open water sport fishery to be worth between \$339 and \$424 per licensed angler, resulting in an estimated consumer surplus associated with the fishery of between \$66.6 million

and \$83.3 million annually. Lyke obtained values for a contaminant-free fishery ranging from \$7.4 million to \$26.1 million per year, with the range in results attributable to whether a linear or constant elasticity of scale functional form is used in the estimation. These results reflect between 11.1% and 31.3% of the value of the fishery under current conditions, which is the range of values EPA used in analysis of the CTR.

EPA acknowledges that Lyke-based benefits represent a substantial portion of total benefits and supports these benefits estimates. (See also comment and response to Issue 3.)

U.S. EPA, 1993. Regulatory Impact Analysis of the Proposed Great Lakes Water Quality Guidance. Final Report, April 15.

EPA estimated the percentage of California waters impaired by toxic pollutants based on water quality assessments developed by the State Water Resources Control Boards. EPA defined toxic-impaired waters as those rated medium or poor for one or more toxic pollutants or group of pollutants. Research (e.g., Lyke, 1993) indicates that the recreational value of water resources may be substantially enhanced by reducing toxic contamination.

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Subject Matter Code: E-02k Long-Term Contamination

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Comment ID: CTR-035-051c

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02k Long-Term Contamination

References:

Attachments? N

CROSS REFERENCES E-02g

E-02f

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Comment: C. Benefits Analysis pp. 5-7 - 5-8 (U.S. EPA, 1997a) -- Attribution of Benefits to the Control of Point Sources

We applaud EPA's effort to analyze and report the proportion of the total benefits that might accrue due to the implementation of controls on point source NPDES dischargers in the benefits analysis (although we believe that this apportionment should have been carried through to the estimates of passive use benefits). We believe that it is appropriate to state the benefits that can be attributed to the estimated expenditures. We recognize, however, that there are many limitations in this approach, and that better data are needed. For instance, the pollutant loadings data used in this analysis were old and outdated (specifically, the Davis and NOAA studies contained data that are 10-15 years old). We urge EPA to update these studies with more recent data for the final Economic Analysis.

We believe that the benefits analysis illustrates that, in many instances, point source controls will not produce significant benefits. For instance, this is illustrated by the fact that the projected health benefits of the CTR in reducing both cancer and baseline systemic risks are minimal (see pp, 8-11 - 8-16, (U.S. EPA, 1997a)). Another example is illustrated by an examination of those water bodies for which fish consumption advisories have been issued. For those included on the State's 303(d) list, except for San Francisco Bay, the causes of impairment are largely listed by the SWRCB as nonpoint sources, including mining or resource extraction, agricultural drainage or runoff, urban stormwater runoff, or other unspecified nonpoint sources (SWRCB, 1996).

In addition, the analysis of benefits should highlight more clearly the fact that there may be little or no benefits in the near-term due to long-term environmental persistence of existing contamination. As EPA itself acknowledges on p. 5-8 (U.S. EPA, 1997a), "historical loads may, in some instances, be the predominant source of toxics-related water quality problems. In such instances, efforts to control current discharges may be of relatively limited effectiveness and value." It is well-documented that some substances, such as DDT and PCBs, which have been banned for two or more decades, still persist in the environment; thus, the likelihood of the CTR substantially reducing loadings and producing benefits is minimal.

Response to: CTR-035-051c

As described in the EA (Chapter 8), research provides empirical evidence of the passive use values associated with improved water quality and fisheries. Research also indicates that these values are at least half as great as recreational values, such that if they are potentially applicable to a policy action,

providing a rough approximation is preferable, with proper caveats, to omitting them from the analysis of benefits and costs. EPA believes that the studies used to calculate the ratio of passive use to use value are applicable to the CTR (see also comment and response CTR-026-009).

Therefore, EPA applies a ratio of .5 to obtain an estimate of passive use values for those households that have active recreational anglers. Based on a review of the literature, EPA believes that non-angling household do indeed have a passive use value. To determine a lower-bound estimate of passive use values for non-angling households, EPA assumed that the value may be 30% of the value for angling households. For analysis of the final CTR, EPA revised the upper-bound estimate assuming that the passive use value of non-angling households may be 90% of those for angling households. This revision is based on a study by Loomis et al. (1991), who estimated the benefits of improved fishery, wetland, and waterfowl resources in the San Joaquin Valley to users and nonusers residing in California.

By multiplying a ratio of passive use to use value by recreational fishing values, which EPA apportioned to reflect the relative contribution of point sources, EPA also accounted for attribution in its estimate of passive use values.

For the EA that accompanied the proposal, EPA conducted an extensive search of the literature for more recent data or information related to the relative contributions of various sources to water quality impairments. In the EA accompanying the proposal, EPA solicited additional data, however, none was received. In revising the EA for the final rulemaking, EPA conducted an additional extensive search of the literature and research efforts at California universities for relevant information. EPA has incorporated any new information into the revised EA for the final rule.

Although the standards established by the CTR apply to all sources, EPA's analysis examined only the portion of benefits expected to be achieved by controlling point sources. EPA estimated the point source share of benefits based on data and information on the relative contribution of all sources to toxic loadings in California waters. Although point sources may account for only a small portion of the load in some waters, they may account for relatively larger portions at some sites, and point source controls will contribute to meeting standards in the water bodies.

EPA recognizes the persistence of some of the substances addressed by the CTR (e.g., DDT and PCBs) and the impact of this persistence on the realization of benefits. In the EA (Chapter 9), EPA accounted for this lag by assuming 10- and 20-year phase-in periods for benefits in its comparison of present value benefits and costs.

In addition, EPA believes that point source controls can factor into pollutant reduction scenarios, although the cost-effectiveness of point and nonpoint source controls are likely to be highly site specific. Potential "hidden" loads (contaminant concentrations which are not currently measured because they are below detection levels) from point sources may also be occurring and may increase the potential benefits of point source controls. In addition, point source loadings reductions will reduce future sediment contamination and, thereby, reduce the need for costly site-specific sediment remediation in the future. Therefore, the CTR can be viewed as both reducing current environmental risks (yielding benefits) by reducing current loadings, and reducing future environmental cleanup costs.

State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-02k Long-Term Contamination  
References:  
Attachments? N  
CROSS REFERENCES E-02c

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Comment: Weaknesses in Benefits Analysis

USEPA's benefits analysis is even weaker than its cost evaluation. For example:

\* Although there is evidence that the Rule could result in no benefits in the near-term due to long-term environmental persistence of existing contamination, the Analysis does a poor job of highlighting this potential outcome. For example, there is some likelihood that benefits could truly be zero, while under no circumstances will Rule implementation be costless. Likewise, USEPA's use of ranges to express potential benefit values may mislead readers into believing that the estimated high benefits are as likely to be achieved as the low benefits, when in fact the probability that different benefit levels will actually be achieved varies greatly from low to high.

Response to: CTR-035-065a

The range of estimated benefits in part reflects the range in loadings reductions that may result from point source controls given the flexibility in State implementation procedures. The decision as to which implementation procedures will be employed, and therefore what costs and benefits will result, will be made by state and local entities for specific locations.

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Subject Matter Code: E-021 Marginal Impacts/Benefits

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Comment ID: CTR-035-052

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-021 Marginal Impacts/Benefits

References:

Attachments? N

**CROSS REFERENCES**

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Comment: pp. 6-1 - 6-12 (U.S. EPA, 1997a) -- Assessment of Potential Ecological Benefits

EPA should state in the Economic Analysis that there may not be a one-to-one relationship between benefits and reductions in toxic pollutants, due to the fact that factors such as habitat alteration, competition from invasive exotic species, inadequate flows, hydrologic modification, channelization, and other disturbances, may pose serious threats to ecological resources, and may undermine or partially negate the benefits of the rule.

Response to: CTR-035-052

EPA acknowledges that Lyke's study has not been published in a peer reviewed journal and that she obtained some inconsistent results. EPA applied Lyke's research to illustrate the types and potential magnitude of the benefits from water quality improvements. EPA conducted an extensive search of the literature for additional studies that provide indication of the potential magnitude of the benefits from reducing concentrations of toxic pollutants in California surface waters. The results of EPA's search are described in the EA that accompanies the final rule.

EPA acknowledges that applying Lyke's results to all California waters affected by toxics may overstate potential benefits (see EA Chapter 8). Anglers may or may not be aware of toxic contamination in the absence of fish consumption advisories. EPA acknowledges the limitations in the application of Lyke's research. However, EPA chose this approach to provide illustration of the potential magnitude of recreational angling values rather than leave this important benefit category unmonetized.

In addition, EPA believes that Lyke's scenario does not capture another component of potential value to current anglers that may result as reduced levels of toxic pollutants result in healthier sport fish populations. Lyke's survey asked anglers to consider a fishery that is free of contaminants that may threaten human health. However, fish are more sensitive than humans to some classes of toxic pollutants and fish populations may increase as contamination is reduced. To the extent that reducing toxic contamination results in a more satisfying angling experience in terms of increasing catch rates, achieving water quality standards may result in an increase in value to current anglers beyond that associated with reducing human health concerns.

EPA first applied Lyke's research in its analysis of the potential benefits of the Great Lakes Water Quality Guidance. Calculation of the range of results is explained in U.S. EPA (1993). Lyke estimated the Wisconsin Great Lakes open water sport fishery to be worth between \$339 and \$424 per licensed angler, resulting in an estimated consumer surplus associated with the fishery of between \$66.6 million

and \$83.3 million annually. Lyke obtained values for a contaminant-free fishery ranging from \$7.4 million to \$26.1 million per year, with the range in results attributable to whether a linear or constant elasticity of scale functional form is used in the estimation. These results reflect between 11.1% and 31.3% of the value of the fishery under current conditions, which is the range of values EPA used in analysis of the CTR.

EPA acknowledges that Lyke-based benefits represent a substantial portion of total benefits and supports these benefits estimates. (See also comment and response to CTR-035-009a.)

U.S. EPA, 1993. Regulatory Impact Analysis of the Proposed Great Lakes Water Quality Guidance. Final Report, April 15.

EPA considers Lyke's scenario (waters completely free of contaminants that may threaten human health) to be similar to a scenario in which all California waters meet the water quality standards established by the CTR. EPA has no information to show that these standards cannot be achieved. Thus, EPA used Lyke's results to estimate the total potential benefits of achieving standards. However, since point source controls alone may not be sufficient to achieve the standards throughout California, EPA allocated only a portion of the total benefits to the CTR.

EPA agrees that the study site for Lyke's research is substantially different from California waters. However, EPA's search of the literature indicated that there is no similar research for California or other more similar waters. Therefore, EPA applied Lyke's results to provide decisionmakers with information on the types and potential magnitude of the benefits from water quality improvements, rather than leaving this important benefit category unmonetized. EPA has no information to determine whether California residents may value toxic-free waters more or less than Wisconsin residents.

In addition, EPA believes that Lyke's scenario does not capture another component of potential value to current anglers that may result as reduced levels of toxic pollutants result in healthier sport fish populations. Lyke's survey asked anglers to consider a fishery that is free of contaminants that may threaten human health. However, fish are more sensitive than humans to some classes of toxic pollutants and fish populations may increase as contamination is reduced. To the extent that reducing toxic contamination results in a more satisfying angling experience in terms of increasing catch rates, achieving water quality standards may result in an increase in value to current anglers beyond that associated with reducing human health concerns.

EPA agrees that the contingent valuation method (CVM) elicits an individual's stated willingness to pay or accept compensation. The benefit-cost comparisons in EAs are prepared to inform the public and policy makers. Thus, the strengths and weaknesses of all aspects of the EA, including methodologies for estimating benefits, need to be made clear so that readers are aware of the limits and uncertainties. However, a 1993 Blue Ribbon Panel convened by the National Oceanic and Atmospheric Administration (NOAA) evaluated CVM and found it to be an appropriate methodology for measuring values. It is also the only method accepted by the U.S. Department of the Interior (DOI) to estimate nonuse values and has withstood Federal Court review for its use in litigation contexts.

Additionally, much of the criticism of CVM is conceptual rather than based on empirical research. Where CVM can be compared to other research techniques (e.g., use values estimated by the travel cost methodology or the hedonic price method), CVM is shown to yield similar values (see Brookshire et al., 1982 and Smith et al., 1986). Additionally, in several field experiments, actual purchase decisions were compared to hypothetical purchase decisions (Bishop and Heberlein, 1978 and Dickie et al., 1987). In all of these studies, hypothetical behavior was sufficiently predictive of actual behavior that researchers

concluded meaningful values could be obtained for benefit-cost analysis or damage assessment.

Bishop, R.C. and T.A. Heberlein. 1978. Measuring values of extra-market goods: Are indirect measures biased? American Journal of Agricultural Economics 61(5): 926-930.

Brookshire, D., M. Thayer, W.D. Schulze, and R. d'Arge. 1982. Valuing public goods: A comparison of the survey and hedonic approaches. American Economic Review 72(1): 165-177.

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Comment ID: CTR-035-067

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-021 Marginal Impacts/Benefits

References:

Attachments? N

CROSS REFERENCES

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Comment: \* The benefits analysis does a poor job of evaluating the marginal impacts of the proposed rule. For example, "...even low contaminant concentrations in water, sediment, or diet may impair fitness, produce adverse-physiological effects that lead to death, or lower long-term survivability in the wild." Likewise, related to environmental benefits:

-- Only a qualitative description of ecologic benefits is provided because of.. (4) uncertainty regarding the extent to which the CTR will result in toxics loading reductions significant enough (relative to the contribution of historical and ongoing point and nonpoint loadings) to generate changes in ambient concentration and ecosystem health (U.S.EPA, 1997a, page 6-10).

Benefits are unlikely to be linear, but rather related to threshold changes in the environment.

Response to: CTR-035-067

EPA provided a qualitative description of benefits to supplement its quantitative analysis, acknowledging that even low concentrations of toxics in water, sediment, or diet may impair fitness or produce adverse physiological effects that can lead to death or lower long-term survivability in the wild (see EA Chapter 6).

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Comment ID: CTR-054-006

Comment Author: Bay Area Dischargers Assoc.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-021 Marginal Impacts/Benefits

References:

Attachments? Y

## CROSS REFERENCES

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Comment: The benefits accruing from these costs would be minimal. The addition of lime treatment at three BADA agency plants to remove copper would have the effect of reducing copper loads to the Bay by 2,400 lbs/year (see Attachment 2). To put this in perspective, this is about 1 % of the total copper load to the Bay based on the Regional Board's 1993 Copper Wasteload Allocation. The cost per toxic pound equivalent removed would be between \$2,300/lb and \$14,800/lb, the former based on EPA's assumption regarding the cost and effectiveness of primary lime addition and the latter based on the assumption that tertiary lime treatment would be necessary. Further, the RMP has generally shown that the dissolved copper criteria is generally achieved in the Bay, with the exception of occasional exceedances in the extreme South Bay and the Petaluma River. Of 216 measurements made over 9 RMP sampling events, only about 10% of the samples exceeded the proposed criteria, with the highest single value recorded being 5.93 ug/l. Loading data is unavailable for the organics, but the RMP data show that there were no exceedances at any station for heptachlor and one of the problematic PAHs and that the other two problematic PAHs were exceeded in less than 3% of the samples. Like copper, the PAH exceedances occurred in the South Bay and the Petaluma River. Hence, reduction of PAHs in the one deep water discharger with attainability problems would not change the current level of compliance. The RMP did not analyze for aldrin. EPA's economic analysis based benefits estimates on improved fishing experience and increased angler participation, reduced cancer risks, and nonuse values associated with compliance with all water quality standards. A 1% reduction in copper loading to the Bay would not trigger any of these benefits, nor would controls that do not result in any change in the present level of compliance in Bay waters of PAHs and heptachlor criteria. Irrespective of the fact that the RMP-measured level of compliance with the subject PAHs is 97% and with heptachlor is 100%, EPA's cancer risk analysis identifies heptachlor as contributing 0.1% to the baseline cancer risks for anglers consuming Bay fish and does not list any PAH (see Economic Analysis Exhibit 8-7). In conclusion, adoption of the proposed criteria, while potentially imposing considerable costs on BADA agencies, would have very little beneficial impact on the Bay. Copper loading would be reduced by 1% and PAH compliance would remain unchanged at 97% to 100%.

Response to: CTR-054-006

As part of its revised cost analysis, EPA estimated the changes in estimated costs and pollutant load reductions based on the lower risk level of 10-5. Under the low scenario, costs decrease by \$1.1 million, approximately 11% less than the costs based on the higher risk level. Under the high scenario, annual costs decrease by \$5.8 million, also an 11% decrease from the costs based on a 10-6 risk level. Pollutant load reductions attributable to use of a lower risk level are estimated to decrease by approximately 4% and 1% under the low and high scenarios, respectively. The relatively low sensitivity of costs to the change in risk level primarily is related to the fact that most of the potential costs related to implementing the CTR are being driven by metals. Changes in risk levels for carcinogens primarily affect organic pollutants.

EPA believes that controls on point source dischargers will, in many cases, contribute to attaining standards in a given water body. As controls on other sources are also implemented, the water quality standards can be achieved. However, the total maximum daily load (TMDL) process is provided to address cost-ineffectiveness as it pertains to point or nonpoint sources. For example, if controls on nonpoint sources are a more cost-effective approach to achieving standards, the State can redistribute the load allocations through the TMDL process.

EPA recognizes that the benefits of the rule will not occur immediately, and has estimated lags in the

realization of benefits. However, EPA believes that the standards established by the CTR can be achieved through point source controls and will result in attaining designated uses of the water bodies, and that the estimated benefits are illustrative of the types and potential benefits to be achieved from attaining these uses.

The U.S. EPA Treatability Database indicates that chemical precipitation with addition of lime is a technology capable of removing metals at the concentrations and loading reductions required. For example, several treatment plants have reached concentrations of 7.7 ug/L for copper based on a pilot study (CTR-based level for copper is 8.03 ug/L) and 0.46 ug/L for silver (CTR-based level for silver is 1.51 ug/L) (U.S.EPA RREL). Some of the sample facilities already have a clarification system in place, therefore, only capital costs for the lime feeding and conveying system need to be considered. For facilities without clarifiers, the capital cost of a primary clarifier is also included in EPA's cost estimates. EPA's cost estimates are based on EPA's Treatability Manual (1980) and are adjusted for inflation.

References: U.S. EPA. 1980. Treatability Manual, Volume IV, Cost Estimating. U.S. EPA Risk Reduction Engineering Laboratory (RREL). Cincinnati, Ohio. Treatability Database.

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Comment ID: CTR-054-013d

Comment Author: Bay Area Dischargers Assoc.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-021 Marginal Impacts/Benefits

References:

Attachments? Y

CROSS REFERENCES E-01g03

E-01q01

E-01m

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Comment: The economic analysis is seriously flawed. The major flaws include: (1) failing to do an appropriate sampling of dischargers; (2) assuming in the high-end cost scenario that a 25% reduction could be achieved through source control and an additional 25% achieved through treatment plant optimization without capital improvements; (3) constraining estimates of potential costs through key assumptions, including the assumption that regulatory relief from the rule would be granted if costs were in excess of certain thresholds; and (4) exaggerating estimates of potential benefits by assuming an end (i.e., achievement of the proposed water quality criteria) that will not result from the rule (see Attachment 3). The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated. BADA's analysis shows that its member agencies alone could be faced with costs in excess of \$100 million per year to achieve effluent limits based on the copper, PAH, heptachlor and aldrin criteria. BADA's analysis also indicates that the benefits associated with this expenditure will be difficult to measure. Copper loadings will be reduced by 1% and the level of compliance for PAH's and heptachlor will remain unchanged at its present high level. Certainly these benefits will not measurably improve the fishing experience or measure the number of fisherman in the Bay, significantly reduce the cancer cases, or improve property values or other nonuse benefits, as estimated in EPA's economic analysis. A further consequence of the flawed economic analysis is the conclusion that the CTR is not a major rule (i.e., one which will result in excess of \$100 million per year expenditure) subject to Presidential Executive order 12866 and the Unfunded Mandates Reform Act or a

rule that affects small entities protected under the Regulatory Reform Act. BADA agencies provide service to a number of small communities with populations under 50,000 people that could be greatly impacted by the proposed rule.

Response to: CTR-054-013d

EPA's analysis presents only the portion of the total potential benefits that can be achieved by controlling point sources. EPA expects additional benefits will accrue as a result of controlling other sources. EPA has no reason to believe that the standards established by the CTR cannot be achieved.

EPA considers Lyke's scenario (waters completely free of contaminants that may threaten human health) to be similar to a scenario in which all California waters meet the water quality standards established by the CTR. EPA has no information to show that these standards cannot be achieved. Thus, EPA used Lyke's results to estimate the total potential benefits of achieving standards. However, since point source controls alone may not be sufficient to achieve the standards throughout California, EPA allocated only a portion of the total benefits to the CTR.

EPA agrees that the study site for Lyke's research is substantially different from California waters. However, EPA's search of the literature indicated that there is no similar research for California or other more similar waters. Therefore, EPA applied Lyke's results to provide decisionmakers with information on the types and potential magnitude of the benefits from water quality improvements, rather than leaving this important benefit category unmonetized. EPA has no information to determine whether California residents may value toxic-free waters more or less than Wisconsin residents.

In addition, EPA believes that Lyke's scenario does not capture another component of potential value to current anglers that may result as reduced levels of toxic pollutants result in healthier sport fish populations. Lyke's survey asked anglers to consider a fishery that is free of contaminants that may threaten human health. However, fish are more sensitive than humans to some classes of toxic pollutants and fish populations may increase as contamination is reduced. To the extent that reducing toxic contamination results in a more satisfying angling experience in terms of increasing catch rates, achieving water quality standards may result in an increase in value to current anglers beyond that associated with reducing human health concerns.

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Comment ID: CTR-092-023b  
Comment Author: City of San Jose, California  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: E-021 Marginal Impacts/Benefits  
References: Letter CTR-092 incorporates by reference letter CTR-035  
Attachments? Y  
CROSS REFERENCES E-02e  
E-02q

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Comment: Comment #7: General Benefit Analysis Concerns

The benefit analysis undertaken by EPA uses old, out-of-state data which does not appear applicable to

California. A major concern with this analysis is that the benefit recipients are only a subset of those impacted by the costs. Another is that the benefits accrue to the public at large; costs, on the other hand, to the extent that CTR-implementation costs are borne by Indirect Dischargers (as assumed by EPA in the copper situation) accrue to businesses.

Further, the benefit measurements of "angling day" are only useful if they represent a net increase in fishing activity -- if all that improving waterway quality does is create additional sites where safe fishing can occur, without increasing the overall amount of fishing that occurs, there is no net gain, there is only substitution between comparable sites. The value of benefits which occur because of substitution between fishing sites must be subtracted from the value which occurs from increased fishing. This has not been done in the EPA analysis, thus benefits are overstated.

Further, no stratification is evident to account for importation of out-of-state fishers -- including benefit value of attracting new anglers from other states to California fishing sites is irrelevant to an analysis of costs/benefits of implementing the CTR for California.

Questions for EPA on Comment #7:

Q.7 - 1) If the concerns stated above were appropriately addressed, what would be the impact on EPA's benefits analysis? Our concern relates to the need to examine levels of regulation in comparison to benefits obtained, i.e. cost-effectiveness.

Q.7 - 2) Executive Order 12866, in recognition that quantification of benefits is very difficult, is quite explicit about addressing qualitative benefits wherever possible why wasn't that done in this analysis?

Response to: CTR-092-023b

EPA was not able to locate more relevant or more recent data or research for the analysis. EPA solicited relevant data and information in the EA and proposal. In addition, in response to comments, EPA conducted an extensive search of the literature for any additional recent, California-specific data or information applicable to the benefits analysis. EPA reviewed and evaluated all data and information submissions, and the results of the literature search, and revised the EA and CTR as appropriate prior to promulgating the final rule.

Although it is true that the direct costs of the regulation are borne by municipal and industrial dischargers while the benefits accrue to the public at large, it is also true that in generating the discharges, the benefits (cost savings) accrued to businesses and municipalities while the costs (decreased utility associated with water resources) were borne by the public. Ultimately, benefits and costs are borne throughout society (e.g., costs are borne directly by municipal and industrial dischargers but indirectly by the public who pays for their products and services).

EPA acknowledged that increased angling activity at sites experiencing reductions in toxic contaminants may reflect a shift in activity from substitute sites rather than a net increase. Because EPA could not account for substitute sites in this analysis, EPA estimated lower bound benefits of \$0 (i.e., assuming no net increases in activity; see EA, Chapter 8).

EPA's estimate of the relevant angling population is based on resident California anglers (see Analysis of the Potential Benefits Related to Implementation of the California Toxics Rule, Draft, December 20, 1996, pp. 3-23, 3-35 to 3-36).

EPA revised its economic analysis in response to comments and to reflect any new data or changes to the proposal. The estimated cost-effectiveness of the rule is expected to range from \$22/lb-eq to \$31/lb-eq. EPA expects the total annual, monetized benefits from implementation of the CTR to range from \$8.7 to \$40.8 million dollars.

Chapter 6 of the EA (Qualitative Assessment of Potential Ecological Benefits) provides a qualitative discussion of potential ecological benefits. EPA also provided a qualitative discussion of important benefit categories that it was not able to quantify or monetize (see the EA that accompanied the proposed rule, Chapter 8).

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Subject Matter Code: E-02m Few Pollutant Mask Analysis

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Comment ID: CTR-035-069

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02m Few Pollutant Mask Analysis

References:

Attachments? N

CROSS REFERENCES

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Comment: \* Most of the public health benefits appear to be associated with a small number of contaminants, acting to mask the benefit cost analysis. For example, cancer risks are dominated by four contaminants, two of which -- DDT and PCBs -- may be substantially unrelated to ongoing point sources. In other words, while costs are associated with reductions in a wide range of toxic materials, benefits may be derived from a small subset of these toxins, most of which are primarily related to non-point sources or historical contamination.

Response to: CTR-035-069

EPA analyzed potential reductions for over forty toxic pollutants that may be discharged by point sources. EPA expects that reductions in these toxics will lead to a variety of benefits including ecological, health, and recreational benefits. Although certain health risks such as cancer are indeed dominated by only a few toxic contaminants that may not be greatly reduced by point source controls, reductions of these toxics are, nevertheless, expected to yield reductions in cancer cases as well as systemic health risks. EPA expects the annual reduction in cancer cases among recreational anglers after implementation of the CTR to range from 0.0 to 0.1 for San Francisco Bay and 0.0 to 0.8 for freshwater resources. EPA also analyzed the post-CTR hazard quotients (HQ) for systemic risks among recreational anglers with high consumption rates. The HQ for PCBs may be reduced from 11.31 to 5.44 for San Francisco Bay anglers and from 7.02 to 3.28 for freshwater anglers.

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Comment ID: CTR-059-025

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-02m Few Pollutant Mask Analysis

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES E-01g08

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Comment: Economic Analysis

The Sanitation Districts commends EPA for preparing an analysis of the economic impacts of the proposed CTR, and for selecting POTWs for half of the case studies. We believe that EPA is correct in thinking that POTWs are likely to experience major impacts as a result of the promulgation of the CTR. However, we believe that this analysis is based on improper assumptions and inaccurate cost estimates, resulting in unconvincing conclusions. Our own attainability and cost analysis indicates that there are indeed fundamental flaws in the cost analysis. A few of the areas of concern are listed below:

\* The Economic Analysis suggests that reductions attributable to point source reductions may be de minimis. For instance, most of the public health benefits appear to be associated with a small number of contaminants, most of which are not discharged in significant quantities by point source dischargers. Cancer risks, for example, are dominated by four contaminants, two of which -- DDT and PCBs -- are mainly the result of historic discharges rather than due to ongoing point source inputs.

Response to: CTR-059-025

EPA analyzed potential reductions for over forty toxic pollutants that may be discharged by point sources. EPA expects that reductions in these toxics will lead to a variety of benefits including ecological, health, and recreational benefits. Although certain health risks such as cancer are indeed dominated by only a few toxic contaminants that may not be greatly reduced by point source controls, reductions of these toxics are, nevertheless, expected to yield reductions in cancer cases as well as systemic health risks. EPA expects the annual reduction in cancer cases among recreational anglers after implementation of the CTR to range from 0.0 to 0.1 for San Francisco Bay and 0.0 to 0.8 for freshwater resources. EPA also analyzed the post-CTR hazard quotients (HQ) for systemic risks among recreational anglers with high consumption rates. The HQ for PCBs may be reduced from 11.31 to 5.44 for San Francisco Bay anglers and from 7.02 to 3.28 for freshwater anglers.

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Subject Matter Code: E-02o Analysis from Wisconsin

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Comment ID: CTR-009-008c  
Comment Author: City of Thousand Oaks  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: E-02o Analysis from Wisconsin  
References:  
Attachments? Y  
CROSS REFERENCES E-02c  
E-01s

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Comment: The City does not agree with the economic analysis. It is incomplete and misrepresents the actual costs and benefits. The analysis does not include costs of expensive AWT to meet more stringent limits based upon the proposed criteria. It does not include the first second, and third order costs to the community, individuals and businesses, of the economic dislocations resulting from huge capital costs, especially for small and economically distressed communities, that divert scarce resources from other priorities or out of the area. It does not include cost impact assessments to low and fixed-income households - ignoring the economic aspects of environmental justice. The benefits assessments make vast unsupported assumptions about the benefits of reductions in constituent concentrations that are barely, if even, measurable, and assigns unrealistic contingent valuations to these assumed benefits. The cost analyses does not follow EPA's own economic assessment guidance (which, itself, is fatally flawed). These points were brought up during the Task Force meetings in 1995 and 1996, but were dismissed outright by EPA. The City hereby raises these issues for the formal record.

The City of Thousand Oaks appreciates the opportunity to comment on the proposed California Toxics Rule.

Sincerely,

Donald H. Nelson Public Works Director

Response to: CTR-009-008c

EPA's own economic assessment guidance (Interim Economic Guidance for Water Quality Standards, EPA-823-B-95-002, March 1995) is intended to assist States and applicants in understanding the economic factors that may be considered, and the types of tests that can be used to determine if a designated use cannot be attained, if a variance can be granted, or if degradation of high-quality water is warranted. In order to remove a designated use or obtain a variance, or if degradation of high-quality water is warranted, the state or discharger must demonstrate that attaining the designated use would result in substantial and widespread economic and social impacts. Although EPA is responsible for approving a State's water quality standards, the State is responsible for interpreting the circumstances of each case and determining where there are substantial and widespread economic and social impacts, or where important social and economic development would be precluded.

Estimating the economic impact of the CTR in California requires a detailed econometric model of the region's economy. EPA did not conduct such an analysis of the rule. However, for a similar toxics rule in

the Great Lakes Basin, an econometric analysis was performed independent of the regulatory impact analysis for the Council of Great Lakes Governors (The Great Lakes Water Quality Initiative: Cost Effective Measures to Enhance Environmental Quality and Regional Competitiveness. DRI/McGraw-Hill, San Francisco, California, July 1993). This analysis showed a minimal impact of the rule on the region's economy for a worst case scenario, a scenario with costs far exceeding those estimated by EPA. Manufacturing output was estimated to fall by between 0.008% and 0.337% over a range of four scenarios evaluated, while personal income loss was estimated at between 0.002% and 0.094% for these scenarios. As a result, the study authors concluded that the impact of the rule on the region's economy would be "nearly imperceptible." Thus, similar controls on toxic pollutants have been shown to be affordable in other regions of the country. In addition, all of the United States, with exception of California, has implemented CWA section (c)(2)(3).

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Comment ID: CTR-040-045

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02o Analysis from Wisconsin

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: EPA's estimate of increased value of recreational angling (\$8.6 million annually under the high-end scenario) is highly suspect:

\* It is based on a Ph.D. dissertation that does not appear to have been subjected to outside peer review (no paper has been found in a peer-reviewed journal). The primary focus of the dissertation was the evaluation, using Wisconsin anglers, of a travel cost model to value changes in environmental quality. A secondary purpose as to evaluate a contingent valuation model to determine the increased value of fishing in pollutant-free waters. The dissertation was based on two surveys of Wisconsin anglers, one set of anglers who fished for trout and salmon in the Great Lakes and another set who fished for the same fish in inland waters. The surveys contained 64 questions, only two of which addressed the increased value of recreational angling in pollutant-free water. There were 274 respondents to the Great Lakes survey and 239 respondents to the inland waters survey. (see Attachment B-2)

\* EPA seems to have selectively used the dissertation. For example, EPA used the results of the Great Lakes survey (which showed an 11.1% increase in value based on mean values) but did not use the inland waters survey (which actually showed a reduction in value with pollutant-free water). This of course raises questions about the validity of the survey and the values present in the dissertation. Further, in estimating the high-end benefits, EPA appears to have used the pollutant-free mean value and compared that to the low-end polluted water value (mean value minus the standard error). It is not clear why EPA would have done this.

\* This approach assumes that the current value of recreational angling in California is impaired as a result of pollution. That may be the case in some waters of the State, but it is certainly not the case in the vast majority of the State's waters.

\* This approach also assumes that the CTR will result in pollutant-free water, which, as stated previously, is not the case.

Response to: CTR-040-045

EPA acknowledges that Lyke's study has not been published in a peer reviewed journal and that she obtained some inconsistent results. EPA applied Lyke's research to illustrate the types and potential magnitude of the benefits from water quality improvements. EPA conducted an extensive search of the literature for additional studies that provide indication of the potential magnitude of the benefits from reducing concentrations of toxic pollutants in California surface waters. The results of EPA's search are described in the EA that accompanies the final rule.

EPA estimated the percentage of California waters impaired by toxic pollutants based on water quality assessments developed by the State Water Resources Control Boards. EPA defined toxic-impaired waters as those rated medium or poor for one or more toxic pollutants or group of pollutants. Research (e.g., Lyke, 1993) indicates that the recreational value of water resources may be substantially enhanced by reducing toxic contamination.

EPA's analysis presents only the portion of the total potential benefits that can be achieved by controlling point sources. EPA expects additional benefits will accrue as a result of the States's actions that may control other sources. EPA has no reason to believe that the standards established by the CTR cannot be achieved.

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Comment ID: CTR-041-041

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02o Analysis from Wisconsin

References:

Attachments? N

CROSS REFERENCES

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Comment: EPA's estimate of increased value of recreational angling (\$8.6 million annually under the high-end scenario) is highly suspect:

\* It is based on a Ph.D. dissertation that does not appear to have been subjected to outside peer review (no paper has been found in a peer-reviewed journal). The primary focus of the dissertation was the evaluation, using Wisconsin anglers, of a travel cost model to value changes in environmental quality. A secondary purpose as to evaluate a contingent valuation model to determine the increased value of fishing in pollutant-free waters. The dissertation was based on two surveys of Wisconsin anglers, one set of anglers who fished for trout and salmon in the Great Lakes and another set who fished for the same fish in inland waters. The surveys contained 64 questions, only two of which addressed the increased value of recreational angling in pollutant-free water. There were 274 respondents to the Great Lakes survey and 239 respondents to the inland waters survey. (see Attachment 3-2)

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Lakes survey (which showed an 11.1 % increase in value based on mean values) but did not use the inland waters survey (which actually showed a reduction in value with pollutant-free water). This of course raises questions about the validity of the survey and the values present in the dissertation. Further, in estimating the high-end benefits, EPA appears to have used the pollutant-free mean value and compared that to the low-end polluted water value (mean value minus the standard error). It is not clear why EPA would have done this.

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\* This approach also assumes that the CTR will result in pollutant-free water, which, as stated previously, is not the case.

Response to: CTR-041-041

EPA acknowledges that Lyke's study has not been published in a peer reviewed journal and that she obtained some inconsistent results. EPA applied Lyke's research to illustrate the types and potential magnitude of the benefits from water quality improvements. EPA conducted an extensive search of the literature for additional studies that provide indication of the potential magnitude of the benefits from reducing concentrations of toxic pollutants in California surface waters. The results of EPA's search are described in the EA that accompanies the final rule.

EPA estimated the percentage of California waters impaired by toxic pollutants based on water quality assessments developed by the State Water Resources Control Boards. EPA defined toxic-impaired waters as those rated medium or poor for one or more toxic pollutants or group of pollutants. Research (e.g., Lyke, 1993) indicates that the recreational value of water resources may be substantially enhanced by reducing toxic contamination.

EPA's analysis presents only the portion of the total potential benefits that can be achieved by controlling point sources. EPA expects additional benefits will accrue as a result of the State's action that may control other sources. EPA has no reason to believe that the standards established by the CTR cannot be achieved.

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Comment ID: CTR-044-036

Comment Author: City of Woodland

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-02o Analysis from Wisconsin

References:

Attachments? N

CROSS REFERENCES

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Comment: EPA's estimate of increased value of recreational angling (\$8.6 million annually under the high-end scenario) is highly suspect:

\* It is based on a Ph.D. dissertation that does not appear to have been subjected to outside peer review (no paper has been found in a peer-reviewed journal). The primary focus of the dissertation was the evaluation, using Wisconsin anglers, of a travel cost model to value changes in environmental quality. A secondary purpose was to evaluate a contingent valuation model to determine the increased value of fishing in pollutant-free waters. The dissertation was based on two surveys of Wisconsin anglers, one set of anglers who fished for trout and salmon in the Great Lakes and another set who fished for the same fish in inland waters. The surveys contained 64 questions, only two of which addressed the increased value of recreational angling in pollutant-free water. There were 274 respondents to the Great Lakes survey and 239 respondents to the inland waters survey. (see Attachment 3-2)

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\* This approach also assumes that the CTR will result in pollutant-free water, which, as stated previously, is not the case.

Response to: CTR-044-036

EPA acknowledges that Lyke's study has not been published in a peer reviewed journal and that she obtained some inconsistent results. EPA applied Lyke's research to illustrate the types and potential magnitude of the benefits from water quality improvements. EPA conducted an extensive search of the literature for additional studies that provide indication of the potential magnitude of the benefits from reducing concentrations of toxic pollutants in California surface waters. The results of EPA's search are described in the EA that accompanies the final rule.

EPA estimated the percentage of California waters impaired by toxic pollutants based on water quality assessments developed by the State Water Resources Control Boards. EPA defined toxic-impaired waters as those rated medium or poor for one or more toxic pollutants or group of pollutants. Research (e.g., Lyke, 1993) indicates that the recreational value of water resources may be substantially enhanced by reducing toxic contamination.

EPA's analysis presents only the portion of the total potential benefits that can be achieved by controlling point sources. EPA expects additional benefits will accrue as a result of controlling other sources. EPA has no reason to believe that the standards established by the CTR cannot be achieved.

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Comment ID: CTR-054-040

Comment Author: Bay Area Dischargers Associati

Document Type: Sewer Authority

State of Origin: CA

Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: E-02o Analysis from Wisconsin  
References:  
Attachments? N

#### CROSS REFERENCES

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Comment: EPA's estimate of increased value of recreational angling (\$8.6 million annually under the high-end scenario) is highly suspect:

\* It is based on a Ph.D. dissertation that does not appear to have been subjected to outside peer review (no paper has been found in a peer-reviewed journal). The primary focus of the dissertation was the evaluation, using Wisconsin anglers, of a travel cost model to value changes in environmental quality. A secondary purpose as to evaluate a contingent valuation model to determine the increased value of fishing in pollutant-free waters. The dissertation was based on two surveys of Wisconsin anglers, one set of anglers who fished for trout and salmon in the Great Lakes and another set who fished for the same fish in inland waters. The surveys contained 64 questions, only two of which addressed the increased value of recreational angling in pollutant-free water. There were 274 respondents to the Great Lakes survey and 239 respondents to the inland waters survey. (see Attachment 3-2)

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\* This approach also assumes that the CTR will result in pollutant-free water, which, as stated previously, is not the case.

Response to: CTR-054-040

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EPA estimated the percentage of California waters impaired by toxic pollutants based on water quality assessments developed by the State Water Resources Control Boards. EPA defined toxic-impaired waters as those rated medium or poor for one or more toxic pollutants or group of pollutants. Research (e.g., Lyke, 1993) indicates that the recreational value of water resources may be substantially enhanced by reducing toxic contamination.

EPA's analysis presents only the portion of the total potential benefits that can be achieved by controlling point sources. EPA expects additional benefits will accrue as a result of controlling other sources. EPA has no reason to believe that the standards established by the CTR cannot be achieved.

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Subject Matter Code: E-02o01 No Peer Review Reference

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Comment ID: CTR-090-004

Comment Author: C&C of SF, Public Util. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: E-02o01 No Peer Review Reference

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

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Comment: Major Concerns About the Proposed Criteria and Rule

1. The Proposal is Based on Poor Data and Will Not Result in Better Water Quality for California. We stated that our own attainability analysis and that of BADA show that San Francisco,) will be impacted by this rule. Unfortunately, due to the short time for review, the poor quality of data and basis for statements and assumptions in the proposal and the problem with detection limits we cannot specifically say what will be the cost to Sari Francisco. One analysis tell us it could be \$2.3 million per year annualized costs and another analysis tells us it could be much more. We strongly recommend major revision to the proposal and the economic analysis before final promulgation for the following reasons:

The benefits section of the economic analysis is extremely flawed; the data used to develop the benefits section is highly questionable, some of which has not been peer reviewed ( see BADA comments);

Response to: CTR-090-004

EPA acknowledges that Lyke's study has not been published in a peer reviewed journal and that she obtained some inconsistent results. EPA applied Lyke's research to illustrate the types and potential magnitude of the benefits from water quality improvements. EPA conducted an extensive search of the literature for additional studies that provide indication of the potential magnitude of the benefits from reducing concentrations of toxic pollutants in California surface waters. The results of EPA's search are described in the EA that accompanies the final rule.

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Subject Matter Code: E-02q Benefits to Public at Large

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Comment ID: CTR-092-023c

Comment Author: City of San Jose, California

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: E-02q Benefits to Public at Large

References: Letter CTR-092 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES E-02e

E-02l

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Comment: Comment #7: General Benefit Analysis Concerns

The benefit analysis undertaken by EPA uses old, out-of-state data which does not appear applicable to California. A major concern with this analysis is that the benefit recipients are only a subset of those impacted by the costs. Another is that the benefits accrue to the public at large; costs, on the other hand, to the extent that CTR-implementation costs are borne by Indirect Dischargers (as assumed by EPA in the copper situation) accrue to businesses.

Further, the benefit measurements of "angling day" are only useful if they represent a net increase in fishing activity -- if all that improving waterway quality does is create additional sites where safe fishing can occur, without increasing the overall amount of fishing that occurs, there is no net gain, there is only substitution between comparable sites. The value of benefits which occur because of substitution between fishing sites must be subtracted from the value which occurs from increased fishing. This has not been done in the EPA analysis, thus benefits are overstated.

Further, no stratification is evident to account for importation of out-of-state fishers -- including benefit value of attracting new anglers from other states to California fishing sites is irrelevant to an analysis of costs/benefits of implementing the CTR for California.

Questions for EPA on Comment #7:

Q.7 - 1) If the concerns stated above were appropriately addressed, what would be the impact on EPA's benefits analysis? Our concern relates to the need to examine levels of regulation in comparison to benefits obtained, i.e. cost-effectiveness.

Q.7 - 2) Executive Order 12866, in recognition that quantification of benefits is very difficult, is quite explicit about addressing qualitative benefits wherever possible why wasn't that done in this analysis?

Response to: CTR-092-023c

EPA was not able to locate more relevant or more recent data or research for the analysis. EPA solicited relevant data and information in the EA and proposal. In addition, in response to comments, EPA conducted an extensive search of the literature for any additional recent, California-specific data or information applicable to the benefits analysis. EPA reviewed and evaluated all data and information submissions, and the results of the literature search, and revised the EA and CTR as appropriate prior to

promulgating the final rule.

Although it is true that the direct costs of the regulation are borne by municipal and industrial dischargers while the benefits accrue to the public at large, it is also true that in generating the discharges, the benefits (cost savings) accrued to businesses and municipalities while the costs (decreased utility associated with water resources) were borne by the public. Ultimately, benefits and costs are borne throughout society (e.g., costs are borne directly by municipal and industrial dischargers but indirectly by the public who pays for their products and services).

EPA acknowledged that increased angling activity at sites experiencing reductions in toxic contaminants may reflect a shift in activity from substitute sites rather than a net increase. Because EPA could not account for substitute sites in this analysis, EPA estimated lower bound benefits of \$0 (i.e., assuming no net increases in activity; see EA, Chapter 8).

EPA's estimate of the relevant angling population is based on resident California anglers (see Analysis of the Potential Benefits Related to Implementation of the California Toxics Rule, Draft, December 20, 1996, pp. 3-23, 3-35 to 3-36).

EPA revised its economic analysis in response to comments and to reflect any new data or changes to the proposal.

(EPA revised.....already part of text)....The estimated cost-effectiveness of the rule is expected to range from \$22/lb-eq to \$31/lb-eq. EPA expects the total annual, monetized benefits from implementation of the CTR to range from \$8.7 to \$40.8 million dollars.

Chapter 6 of the EA (Qualitative Assessment of Potential Ecological Benefits) provides a qualitative discussion of potential ecological benefits. EPA also provided a qualitative discussion of important benefit categories that it was not able to quantify or monetize (see the EA that accompanied the proposed rule, Chapter 8).

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Subject Matter Code: F Endangered Species Act

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Comment ID: CTR-001-009a  
Comment Author: Law Offices of Alan C. Waltner  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org: Alameda Cnty Clean Wtr Pgm  
Document Date: 09/22/97  
Subject Matter Code: F Endangered Species Act  
References:  
Attachments? N  
CROSS REFERENCES J-06

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Comment: THE PROPOSAL VIOLATES THE NATIONAL ENVIRONMENTAL POLICY ACT AND ENDANGERED SPECIES ACT, AND WOULD USURP THE ROLE OF CONGRESS AND THE STATE AND REGIONAL BOARDS

Major environmental impacts of controls could also be foreseen if the water quality standards of the proposed CTR were to apply as numeric effluent limitations or wasteload allocations. This would result in the requirement to prepare an EIS in connection with the proposed rule. (\*13) In effect, substantial end-of-pipe treatment facilities on the same order of magnitude as existing POTWs in the Bay Area could be necessary.

Given the scale and location of the facilities that would be required, significant wetland, endangered species and other environmental impacts could occur. EPA must fully evaluate these impacts of the proposed rule before the rule is promulgated. (\*14)

A more expansive application of the WQS also would usurp the basin planning process to the extent that the regional boards have included textual discussions of how ambient water quality criteria are to be implemented, particularly with respect to MS4s. The San Francisco Basin Plan states generally that WQS are to be addressed by MS4s through escalating BMPS. EPA has not taken action to disapprove the San Francisco Basin Plan and cannot implicitly repeal portions of that plan through inconsistent preamble language in the currently proposed rule.

Congress has already addressed this significant public policy question and the agency cannot shed its Congressional leash and arrogate legislative power. This is particularly true given the massive expenditures of public funds that could be implicated under at least the more expansive view of what EPA has proposed. We elect our representatives in Congress to balance these major questions, such as the matter of whether local funds should be siphoned from schools, police, infrastructure, etc., to fund storm water controls at the scale necessary to meet WQS regardless of cost. Congress has determined in Section 402(p) that MS4s need only adopt controls to reduce pollutants in storm water to the maximum extent practicable, and to effectively prohibit non-storm water discharges to the storm water system, rather than being subjected to infeasible or exorbitantly expensive numeric effluent limitations.(\*15)

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(\*13) To the extent that the CTR will force development of end-of-pipe treatment systems, promulgation of the CTR will represent a major federal action significantly affecting the quality of the human environment under the National Environmental Policy Act, triggering the requirement to develop an

environmental impact statement to support the rule.

(\*14) Commenters have been limited in their ability to present specific information on the question of endangered species, wetland and other environmental impacts given the short comment period on the proposal and EPA's refusal to extend that comment period.

(\*15) In Sections 402(p)(5) and (6)f Congress also directed that the approach to meeting water quality standards should MEP-level controls on major dischargers fall short would be to study and expand the scope of the program to include additional dischargers. No mention is made of subjecting major MS4s to more stringent controls. In fact, the regulations are expressly required to target stormwater discharges, other than those discharges described in paragraph (2) [major MS4S], to be regulated to protect water quality - 33 U.S.C. section 1342(p)(6) (Emphasis added).

Response to: CTR-001-009a

With respect to compliance with NEPA, section 511(c) of the Clean Water Act excludes this rulemaking from the requirements of NEPA. The comment also assumes that stormwater discharges subject to numeric effluent limitations will have to be treated by new end-of-pipe facilities. As explained in the response to Storm Water Economics Comments (Category J, Comment CTR-040-004), EPA believes that implementation of criteria as applied to wet-weather discharges will not require the construction of end-of-pipe facilities.

The purpose of the CTR is to fill the current gaps in water quality criteria in inland surface waters and enclosed bays and estuaries. Any existing provisions in a State Basin Plan that have been approved by the State and EPA would not be negated by the preamble discussion in the CTR.

Regarding the application of MEP under section 402(p) of the CWA see response to CTR-040-004.

See also response to CTR-001-009b (Category J-06; Stormwater Economics).

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Comment ID: CTR-012-001

Comment Author: Fish and Wildlife Service

Document Type: Federal Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: F Endangered Species Act

References:

Attachments? N

CROSS REFERENCES

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Comment: This is in response to the Environmental Protection Agency's (EPA) August 5, 1997, publication of the Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; Proposed Rule (Proposed Rule) (Federal Register Vol. 62, No. 150, pages 42159-42208). The Fish and Wildlife Service (Service) provides the following comments specific to EPA's statutory obligations pursuant to section 7 of the Endangered Species Act of 1973, as amended (Act).

Section L of the Proposed Rule states that consultation pursuant to section 7 of the Act will occur. Section 7 of the Act directs that Federal agencies prepare a biological assessment for a proposed action that may affect a listed species, however, to date the Service has not received a biological assessment on the Proposed Rule. The Service has specific concerns regarding selenium, mercury, dissolved metals and PCP and their effects on listed species. Preliminary review indicates that adverse impacts to listed species may occur, therefore, we anticipate that the EPA will formally consult with the Service regarding this proposed rule making process, and will wait until formal section 7 consultation has been completed before finalizing the proposed rule.

The Service looks forward to the opportunity to work with you and our staff on this consultation and appreciates the efforts to date to evaluate the effects of the proposed action on listed species. If you have any questions regarding this response please contact Ms. Maria Boroja at (916) 979-2749.

Response to: CTR-012-001

The US Fish and Wildlife Service (FWS) and US National Marine Fisheries Service initiated formal consultation in a letter to EPA dated November 28, 1997, after reviewing the biological evaluation that EPA submitted to them on October 27, 1997. These documents and others pertaining to the formal consultation process are part of the administrative record of the CTR. EPA completed this process [in October 1999].

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Comment ID: CTR-031-002a

Comment Author: Fresno Metro. Flood Ctrl Dist.

Document Type: Flood Ctrl. District

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: F Endangered Species Act

References: Letter CTR-031 incorporates by reference letter CTR-027

Attachments? N

CROSS REFERENCES C-17a

C-17b

J

V

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Comment: 2. Since the preamble implies that CTR criteria may be applied in NPDES permits for municipal storm water dischargers as numeric effluent limitations, the proposed rule is flawed with regard to: a) setting attainable, scientifically valid criteria in a manner consistent with state and federal regulatory approaches; b) assessing the potential economic impact on the public served by municipal storm water dischargers; c) assessing environmental impacts pursuant to the National Environmental Policy Act and the Endangered Species Act; and d) providing for the coordinated review and evaluation of the proposed CTR in conjunction with the proposed State Implementation Plan.

Response to: CTR-031-002a

With respect to comments about storm water dischargers, see response to comment CTR-013-003 (Category J; Stormwater Economics).

With respect to comments about NEPA and ESA, see response to CTR-031-002e (Category V; Collaborative Approach). With respect to the comment about coordination with the State Implementation Plan, see response to CTR-031-008b (Category V; Collaborative Approach).

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Comment ID: CTR-031-007a

Comment Author: Fresno Metro. Flood Ctrl Dist.

Document Type: Flood Ctrl. District

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: F Endangered Species Act

References: Letter CTR-031 incorporates by reference letter CTR-027

Attachments? N

CROSS REFERENCES J-04

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Comment: C. If the CTR as proposed in the current draft is applied to municipal storm water dischargers as numeric effluent limitations, new end-of-pipe facilities will result. The impact of these facilities on the environment in general, and endangered species in particular, must therefore be specifically reviewed pursuant to the National Environmental Policy Act and Endangered Species Act.

End-of-pipe facilities would be required for municipal storm water dischargers in their attempt to meet the subject criteria. Storm water facilities must be located in the lowest topographic areas, which contain many of our most valuable and already diminished wetland habitats. This readily foreseeable environmental consequence of the CTR, if directly applied to municipal storm water dischargers, should not be ignored.

Response to: CTR-031-007a

With respect to ESA, EPA has completed consultation as required by Section 7 of the ESA. With respect to compliance with NEPA, section 511(c) of the Clean Water Act excludes this rulemaking from the requirements of NEPA. The comment also assumes that stormwater discharges subject to numeric effluent limitations will have to be treated by new end-of-pipe facilities. As explained in the response to Storm Water Economics Comments (Category J, CTR-040-004), EPA believes that implementation of criteria as applied to wet-weather discharges will not require the construction of end-of-pipe facilities.

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Comment ID: CTR-034-006

Comment Author: SCAP

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: F Endangered Species Act

References: Letter CTR-034 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES

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Comment: LEGAL ISSUES -- Executive Order 12866, Unfunded Mandates Reform Act, Regulatory Flexibility Act

\* SCAP requests that EPA publish in the Federal Register for public review and comment a full discussion of the CTR criteria and implementation provisions that could be affected through the Endangered Species Act Section 7 consultation process with the U.S. Fish and Wildlife service and National Marine Fisheries Service. Additionally, prior to finalizing the CTR, EPA should provide an opportunity for the public to comment on the Biological Evaluation, Biological Opinion, including Reasonable and Prudent Alternatives, and EPA's proposed decisions regarding the Biological Opinion.

Response to: CTR-034-006

The administrative record for the CTR contains documents concerning the ESA consultation. The record contains EPA's biological evaluation and the FWS's and NMFS's biological opinion. The Services' biological opinion is not subject to public comment, rather EPA's proposed rule is subject to comment. Persons wishing to comment on how the rule would affect threatened and endangered species had adequate opportunity to do so during the comment period.

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Comment ID: CTR-035-042  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: F Endangered Species Act  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: p. 42192 of preamble & pp. 5-42 - 5-52 (U.S. EPA, 1997c) - The Endangered Species Act EPA should provide a full discussion in the Preamble of the criteria and implementation provisions that could be affected through the consultation process with the U.S. Fish and Wildlife Service and National Marine Fisheries Service. In addition, EPA should provide an opportunity for public comment on the Biological Evaluation, Biological Opinion, including any Reasonable and Prudent Alternatives, and EPA's proposed decisions regarding the Biological Opinion, before the CTR is finalized, This will allow in parties to provide information to EPA that may be relevant to Agency decision making about the impacts of the CTR on threatened and endangered species.

Response to: CTR-035-042

See response to CTR-034-006.

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Comment ID: CTR-059-017  
Comment Author: Los Angeles County Sanit. Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:

Document Date: 09/26/97  
Subject Matter Code: F Endangered Species Act  
References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y  
CROSS REFERENCES

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Comment: Endangered Species Act

LACSD requests that EPA publish in the Federal Register for public review and comment a full discussion of the CTR criteria and implementation provisions that could be affected through the Endangered Species Act Section 7 consultation process with the U.S. Fish and Wildlife Service and National Marine Fisheries Service. Additionally, prior to finalizing the CTR, EPA should provide an opportunity for the public to comment on the Biological Evaluation, Biological Opinion, including Reasonable and Prudent Alternatives, and EPA's proposed decisions regarding the Biological Opinion.

Response to: CTR-059-017

See response to CTR-034-006.

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Comment ID: CTRH-001-009b  
Comment Author: Doug Harrison  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Fresno Met. Flood Control  
Document Date: 09/17/97  
Subject Matter Code: F Endangered Species Act  
References:  
Attachments? N  
CROSS REFERENCES J-6

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Comment: Lastly, it's been fairly well documented by EPA testimony before the Congress and by other state stakeholders' concerns about the end-of-pipe mandate, because the end-of-pipe facilities that must be constructed in effect create substantial damage to the riparian and other waters of the U.S. that are of primary concern to us.

With that potential, then certainly NEPA and the Endangered Species Act would require an evaluation of the impact associated with a rule causing or leading to those impacts. And again, the current rule does not consider that nor any of the cost or other impacts related to stormwater programs.

So there is a huge consistency or inconsistency problem that we think must be corrected for the rule to be consistent with the statutes and with your executive orders.

Thank you.

Response to: CTRH-001-009b

With respect to ESA, EPA has completed consultation as required by Section 7 of the ESA. With respect to compliance with NEPA, section 511(c) of the Clean Water Act excludes this rulemaking from the requirements of NEPA. The comment also assumes that stormwater discharges subject to numeric effluent limitations will have to be treated by new end-of-pipe facilities. As explained in the response to Storm Water Economics Comments (Category J, CTR-040-004), EPA believes that implementation of criteria as applied to wet-weather discharges will not require the construction of end-of-pipe facilities.

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Subject Matter Code: G-01 Reasonable Potential

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Comment ID: CTR-032-002a

Comment Author: Las Gallinas Val. Sanitary Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-01 Reasonable Potential

References: Letter CTR-032 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES C-22

G-09

C-24a

C-24

K

G-04

G-05

G-02

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Comment: Regulatory Flexibility and Relief

The District supports EPA's use of "sound science" and current data in developing the proposed criteria in the California Toxics Rule (CTR). The District strongly supports language in the Preamble that references and endorses recommendations of the State Task Forces including use in permitting of:

\* reasonable potential analyses \* dissolved metals criteria \* translators \* water effects ratios \* site specific objectives \* innovative TMDL processes such as effluent trading \* performance based interim limits \* chronic and acute mixing zones, and \* compliance schedules in NPDES permits.

Response to: CTR-032-002a

EPA appreciates the commenter's support for the preamble language on State implementation. However, EPA wishes to clarify that for reasonable potential analysis, the CTR preamble did not explicitly recommend any specific method of calculating reasonable potential including those methods chosen by the State Task Force. The State of California as the implementing authority has the discretion to choose any method that meets the requirements of the Clean Water Act. EPA does support the State's consideration of State Task Force recommendations in selecting implementation procedures including reasonable potential methodology.

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Comment ID: CTR-037-001b

Comment Author: Hampton Roads Sanitation Dist.

Document Type: Sewer Authority

State of Origin: VA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-01 Reasonable Potential

References:

Attachments? N

CROSS REFERENCES C-24

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Comment: 1. The rule proposes that the more stringent of site-specific and national criteria be used in determining reasonable potential to exceed water quality standards and in development of limits where site-specific criteria have not yet been established. This proposal ignores the scientific basis of a site-specific criterion and that such a criterion is specifically more relevant and appropriate than a national criterion if derived correctly. EPA has acknowledged that national criteria can be more stringent than necessary to protect designated uses because they are designed to protect a wide variety of surface waters, and that a site-specific criterion can be sufficiently protective while being less stringent than a national criterion (Water Effect Ratio Guidance, 1994). This rule is arbitrarily dismissing the use of site-specific criteria which may be more technically defensible than national criteria, while being protective.

Response to: CTR-037-001b

The proposed rule does not by its own terms dictate whether a particular site-specific criterion or a national criterion should be used in a reasonable potential analysis. The reasonable potential analysis to determine whether a discharger needs a water quality-based effluent limit is based on the criterion that applies to the waterbody. EPA agrees that when an approved state site-specific criterion applies to a particular pollutant for a specific waterbody and EPA determines that it need not adopt a criterion for that pollutant and site in the final rule, the State site-specific criterion should be the criterion upon which the reasonable potential analysis is based.

If EPA promulgates statewide federal criteria before a decision to approve a State-adopted site-specific criteria, the more stringent of the two criteria would be used for water quality programs. Both federal and State water quality programs must be satisfied, and application of the more stringent of the two criteria would satisfy both. The CTR does not preclude future State adoption of site-specific criteria. However, a state-adopted site-specific criterion would become the sole criterion upon which a reasonable potential analysis is based only after EPA approves the criterion and also stays or withdraws the corresponding CTR criterion to the specific site.

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Comment ID: CTR-086-004a

Comment Author: EOA, Inc.

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org: California Dent

Document Date: 09/26/97

Subject Matter Code: G-01 Reasonable Potential

References: Letter CTR-086 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES C-22

G-09

C-24a

C-24

K-03

G-04

G-05

G-02

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Comment: Regulatory Flexibility and Relief

CDA supports language in the CTR Preamble that references and endorses recommendations of the State Task Forces including in part the use of.

\* reasonable potential analyses \* dissolved metals criteria \* translators \* water effects ratios \* site specific objectives \* innovative TMDL processes such as effluent trading \* performance based interim limits \* chronic and acute mixing zones, and \* compliance schedules in NPDES permits.

Response to: CTR-086-004a

EPA appreciates the commenter's support for the preamble language on State implementation. However, EPA wishes to clarify that for reasonable potential analysis, the CTR preamble did not explicitly recommend any specific method of calculating reasonable potential including those methods chosen by the State Task Force. The State of California as the implementing authority has the discretion to choose any method that meets the requirements of the Clean Water Act. EPA does support the State's consideration of State Task Force recommendations in selecting implementation procedures including reasonable potential methodology.

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Comment ID: CTR-090-010a

Comment Author: C&C of SF, Public Util. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-01 Reasonable Potential

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES K-01

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Comment: We recommend that EPA:

2. Include in the rule an implementation proposal which states that before a criteria is put into a permit there must first be: an assessment that the pollutant could reasonably interfere with the designated uses of the water; a comprehensive TMDL is done which includes all sources of pollutants to the water body; and a reasonable potential analysis is completed for point source dischargers. Only then, after all of these analyses are completed by the state or EPA should the criteria be converted to a permit limit with the appropriate implementation factors.

Response to: CTR-090-010a

The implementation procedures suggested by the commenter are beyond the scope of this rule. Implementation of water quality standards through various regulatory and non-regulatory tools is primarily a State responsibility.

Generally, a permit limit that implements a criterion for a pollutant will only be considered when it has already been determined that limiting the level of the pollutant is necessary to protect the designated use.

This determination occurs during the standard-setting process. EPA agrees that when multiple sources (point and nonpoint) impact a waterbody, a comprehensive TMDL is the preferred regulatory tool under the CWA for determining how best to achieve any necessary load reduction to the waterbody so as to attain water quality standards. When a TMDL has been conducted, the wasteload allocation (WLA) in the TMDL for a discharger would be basis for developing water quality-based effluent limits. When the TMDL includes a WLA for a discharger, a separate reasonable potential analysis to determine whether or not a WQBEL is needed would in most cases be redundant (although in rare cases, it may be that the level of the pollutant in the discharger's effluent is so much less than the level allowed by a WLA/WQBEL that even under worst case conditions the effluent would not exceed the WQBEL; in these cases, permitting authority would have the discretion not to include a limit.).

As recognized in the preamble to the proposed rule, the TMDL process "can be significantly labor and data intensive." 62 FR at 42185. Delaying WQBELs until TMDLs are completed would be inconsistent with the Clean Water Act and would unnecessarily delay attainment of water quality goals. The CWA requires imposition of WQBELs whenever technology-based limits are insufficient to attain water quality standards [301(b)(1)(C) and 402], whether or not a TMDL has been completed for that pollutant. Under federal regulations, permitting authorities must analyze whether a discharger would cause or have the reasonable potential to cause or contribute to an exceedance of water quality standards [Section 122.44(d)(1)(i) ], and if so, impose a WQBEL that derives from and implements the standard [Section 122.44(d)(1)(vii)]. Permitting authorities need to consider a number of factors related to the characteristics of the effluent and receiving water (including other sources that influence the background levels of pollutants in the receiving water) in making these determinations. [see, e.g., Section 122.44(d)(1)(ii)].

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Subject Matter Code: G-02 Compliance Schedules

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Comment ID: CTR-002-010b

Comment Author: Comm. for a Better Environment

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: G-02 Compliance Schedules

References:

Attachments? Y

CROSS REFERENCES A

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Comment: The proposed implementation plan allowing compliance schedules for effluent limits to attain the criteria to be placed in permits may not pass the antidegradation test either. CBE believes EPA recognizes that permit schedules which allow continued impairment of fishing and aquatic life uses are improper (See e.g., section 1311(b)(1)(C), section 1314(l)(1)(D), section 1342(o)(1) and (3) and section 1313(d)(4)(A) of the Clean Water Act). In the alternative case, however, a schedule allowing discharge of these persistent pollutants to waters attaining the criteria will result in the accumulation of pollutants and will degrade water quality. This degradation is unnecessary as the state has accommodated important economic and social development for years while placing compliance schedules in administrative enforcement orders, and is thus impermissible under 40 CFR section 131.12(a)(2). Indeed, existing California dischargers have been made aware of the need to meet similar or more restrictive criteria since at least 1991, and further extension of time for more pollution should be done through schedules in enforcement orders. Any desire to avoid the administrative effort of continuing to prepare these enforcement orders is easily outweighed by the public interests in clean water and public participation afforded.

In sum, EPA'S. weaker criteria shown in Table 2 do not protect designated uses of water based on sound scientific rationale, and even if this were true for some toxics in some areas of the Bay, the weaker criteria are not necessary to allow important economic or social development. Therefore, revision of water quality standards by adopting these criteria would not meet the tests set forth by 40 CFR section 131.11(a)(1) and section 131.12 and the Clean Water Act provisions these regulations implement, Further, incorporating schedules allowing polluters to harm fishing and aquatic life in water quality standards and effluent limits is improper, and there is no legitimate need for schedules allowing degradation of water quality and restricting public participation to be in permits instead of putting them in administrative enforcement orders as is done today. Thus EPA's proposal may, by failing to provide equal protection for people of color who fish for food and unfairly restricting public participation, also conflict with the Executive Order on environmental justice and civil rights law.

Response to: CTR-002-010b

The Clean Water Act authorizes the use of compliance schedules for meeting water quality standards. Section 303(e), governing the continuing planning process for water quality standards, states that the Administrator shall approve continuing planning processes that have, among other things, effluent limitations and schedules of compliance. See CWA section 303(e)(3)(A) and (F). Congress recognized the practical need for compliance schedules to allow dischargers the time necessary to install treatment to comply with effluent limitations. Other portions of the CWA contemplate that some time is practically necessary in order to allow dischargers time to meet new effluent limits, e.g. section 304(l), providing for

three years to meet water quality based limits in waters that are impaired, and section 301(b)(2), relating to technology-based limits. EPA's implementing regulations also contemplate schedules of compliance. See 40 CFR Section 130.5(1) and (6) which provide that each state must describe the process for developing effluent limitations and schedules of compliance and for establishing and assuring adequate implementation of new or revised water quality standards, including schedules of compliance.

The Environmental Appeals Board has held that an NPDES permit could not contain a compliance schedule unless the State explicitly authorizes such a compliance schedule in state law or regulation. See *Star-Kist Caribe, Inc.* (NPDES Appeal No. 88-5, May 26, 1992; Earlier Order, April 16, 1990). This holding clearly recognizes that compliance schedules are authorized under the Clean Water Act as part of the state's water quality standards. Further, EPA notes that because parties may challenge particular effluent limitations in particular permit proceedings, they may comment on specific proposed permits and then challenge such permits if they believe that EPA's granting of additional time in a particular context is arbitrary and capricious.

The question at issue in authorizing a compliance schedule is how long is reasonably necessary to meet the water-quality based effluent limit contained in a permit. As is consistent with the Great Lakes Guidance, EPA is authorizing five years as the outside limit for a compliance schedule, but expects permit authorities to use shorter compliance schedules wherever possible, or not to use compliance schedules where they are not necessary. Thus authorizing a compliance schedule does not mean each discharger will be allowed up to that amount of time; rather the permit authority will need to make a judgment about what is technically feasible for the dischargers to come into compliance. Further, recognizing that permit reissuance depends on where in the permit cycle the discharger is, the rule provides that, in effect, the discharger may have up to ten years from the effective date of the rule to come into compliance with permit limits.

The regulated community commented that the compliance schedule was too short, while some environmental commenters argued that there should be no compliance schedule at all. Here, EPA balanced the prior existing compliance schedule time applied by the State of California, which for the Inland Surface Waters Plan and Enclosed Bays and Estuaries Plan was up to ten years and concerns from some dischargers that meeting the limits will take at least five years with EPA's view that the criteria be met as expeditiously as possible.

EPA believes that more than three years may be needed in some circumstances for a variety of reasons. EPA is concerned that in some cases, dischargers may need to implement new state-of-the art treatment technologies or pollution prevention programs. Also, evaluation, design and implementation of facility-wide comprehensive pollution prevention strategies involving product substitution, process line changes may require more than three years. Further, as discussed in the preamble to the proposed rule, the technical and administrative process of modifying and implementing revised requirements for numerous industrial users at POTWs, as well as planning budgeting and undertaking new construction to change treatment processes at a municipal treatment works may take more than three years. 62 Fed. Reg. 42187 (Aug. 5, 1997). Thus, EPA finds that a compliance schedule of five years is reasonable for the CTR.

EPA further notes that its permit regulations allow the use of interim limitations in conjunction with a compliance schedule or other mechanism such as a variance. 40 CFR 122.47.

With respect to comments suggesting that EPA's criteria do not protect designated uses see response to CTR-002-003 (Category C-24; Site-Specific Criteria). With respect to the comment that the CTR may degrade water quality in violation of antidegradation policy see CTR-002-010a (Category A;

Antidegradation) and CTR-039-004 (Category C-14;Fish/Water Consumption).

With respect to comments concerning environmental justice see response to CTR-002-005a (Category C-14; Fish/Water Consumption).

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Comment ID: CTR-009-002  
Comment Author: City of Thousand Oaks  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: G-02 Compliance Schedules  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: The City concurs with the five year compliance schedule and variance provisions, and the EPA's recommendation that the State include such provisions in its water quality standards regulations as broadly and flexibly as the law allows.

Response to: CTR-009-002

EPA appreciates these comments providing support of EPA's positions on compliance schedules and variances.

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Comment ID: CTR-009-006b  
Comment Author: City of Thousand Oaks  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: G-02 Compliance Schedules  
References:  
Attachments? Y  
CROSS REFERENCES C-24

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Comment: With respect to the provisions in the proposed rule regarding compliance schedules and site-specific objective development and approval implementation, the City requests verification that these, and all provisions, in the proposed rule apply only to those constituents for which this rule proposes criteria.

Response to: CTR-009-006b

The compliance schedule allowance only applies to pollutants listed in the CTR. This rule does not address site-specific criteria development.

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Comment ID: CTR-013-007b  
Comment Author: County of Los Angeles  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-02 Compliance Schedules  
References: Letter CTR-013 incorporates by reference letter CTR-027

Attachments? N

CROSS REFERENCES I-05

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Comment: In addition, we would like to emphasize the following concerns which greatly impact the Los Angeles County Stormwater Program:

7. The proposed rule provides only a five-year compliance schedule to achieve compliance with the proposed water quality criteria. Again, setting aside the issue of whether water quality standards actually apply to municipal stormwater discharges, municipal stormwater programs are long-term, BMP-based programs. Because of this, it will take many years for a municipality to realize any water quality benefits in the receiving waters. The preamble to the proposed rule addresses all wet weather discharges together in one discussion. Municipal stormwater programs should be discussed and treated separately from all other wet weather and point source discharges. These are unique programs and cannot be placed in a "one-size fits all" regulatory program. The proposed rule needs to account for the nature of stormwater discharges by allowing more time for the MS4 long-term, BMP, source control program approach to take place for controlling pollutants in stormwater discharges.

We recommend that the rule be revised to provide a longer compliance schedule and to provide more flexible regulatory relief for MS4 dischargers who have fully complied with the MEP discharge standards but cannot achieve compliance within the established compliance schedule. At a minimum, the CTR should follow the recommendation of the State Task Force on the Inland Surface Water Plan to provide a 15-year compliance schedule.

Response to: CTR-013-007b

EPA is unwilling to extend the compliance period beyond five years because it has not received specific information indicating under what specific circumstances more than five years would be necessary to meet permit limits. Some municipalities supported the five year compliance schedule, while others argued that it was not sufficiently long. With respect to municipal stormwater discharges, permits are expected to require implementation of BMPs as the effluent limitations and that these BMPs are feasible within five years. Compliance schedules relate to what is necessary to meet the requirements of a particular permit limitation and EPA believes that meeting these limits is feasible within five years.

EPA supports the State in adopting a statewide provision independent of or as part of the current effort to readopt statewide water quality control plans, or in adopting individual basin-wide compliance schedule provisions through its nine Regional Water Quality Control Boards (RWQCBs). The State and RWQCBs have broad discretion to adopt a provision, including discretion on reasonable lengths of time for final compliance with WQBELs. EPA recognizes that practical time frames within which to set interim goals may be necessary to achieve meaningful, long-term improvements in water quality in

California.

EPA would prefer that the State authorize a compliance schedule provision but recognizes that it may not be able to complete this action for some time after promulgation of the CTR. Thus, EPA has chosen to promulgate the rule with a sunset provision which states that the authorizing compliance schedule provision will cease or sunset on September 30, 2004, or in approximately five years. However, if the State Board adopts, and EPA approves, a statewide authorizing compliance schedule provision prior to that time, EPA will expeditiously act to stay the authorizing compliance schedule provision in today's rule. Additionally, if a Regional Board adopts, and the State Board adopts and EPA approves, a Regional Board authorizing compliance schedule provision, EPA will act to stay today's provision for the appropriate or corresponding geographic region in California. At that time, the State Board's or Regional Board's authorizing compliance schedule provision will govern the ability of the State regulatory entity to allow a discharger to include a compliance schedule in a discharger's NPDES permit.

At this time, two RWQCBs have adopted an authorizing compliance schedule provision as an amendment to their respective Basin Plans during the Boards' last triennial review process. The Basin Plans have been adopted by the State and have come to EPA for approval. Thus, the Basin Plans' provisions are effective for the respective Basins. If and when EPA approves of either Regional Basin Plan, EPA will expeditiously act to amend the CTR, staying its compliance schedule provision, for the appropriate geographic region.

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Comment ID: CTR-015-006

Comment Author: Eastern Municipal Water Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/23/97

Subject Matter Code: G-02 Compliance Schedules

References:

Attachments? N

CROSS REFERENCES

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Comment: Schedules of Compliance (FR p. 42187, Preamble section F.5.)

It is mentioned that one Regional Board has adopted an authorizing compliance schedule provision in its Basin Plan and that, if the Agency includes a authorizing compliance schedule provision in this Rule, that Regional Board's provision will be recognized and effective. How would other Regional Boards get similar provisions into their Basin Plans, and what is the State Board's function, after this Rule is finalized? This discussion is confusing, as California state law already authorizes the use of schedules of compliance (Porter-Cologne Water Quality Act, Article 4, section 13263(c); California Code of Regulations, Title 23, Division 3, Chapter 91 section 2235.2). The discussion implies that, if the Agency does not include an authorizing compliance schedule provision in this Rule, that compliance schedules would not be allowed, which could impact the State Board's existing general authority and associated policies.

Response to: CTR-015-006

The CTR pre-empts any state law unless the state law is more stringent (Clean Water Act, Section 510).

The compliance schedule allowance in the CTR will be applicable wherever the CTR applies. If a Basin Plan includes a criteria (objective) for pollutant to which the CTR either does not apply or is less stringent, that Basin Plan must allow for compliance schedules in order for a compliance schedule to be included in the permit.

EPA would prefer that the State authorize a compliance schedule provision but recognizes that it may not be able to complete this action for some time after promulgation of the CTR. Thus, EPA has chosen to promulgate the rule with a sunset provision which states that the authorizing compliance schedule provision will cease or sunset on September 30, 2004, or in approximately five years. However, if the State Board adopts, and EPA approves, a statewide authorizing compliance schedule provision prior to that time, EPA will expeditiously act to stay the authorizing compliance schedule provision in today's rule. Additionally, if a Regional Board adopts, and the State Board adopts and EPA approves, a Regional Board authorizing compliance schedule provision, EPA will act to stay today's provision for the appropriate or corresponding geographic region in California. At that time, the State Board's or Regional Board's authorizing compliance schedule provision will govern the ability of the State regulatory entity to allow a discharger to include a compliance schedule in a discharger's NPDES permit.

At this time, two RWQCBs have adopted an authorizing compliance schedule provision as an amendment to their respective Basin Plans during the Boards' last triennial review process. The Basin Plans have been adopted by the State and have come to EPA for approval. Thus, the Basin Plans' provisions are effective for the respective Basins. If and when EPA approves of either Regional Basin Plan, EPA will expeditiously act to amend the CTR, staying its compliance schedule provision, for the appropriate geographic region.

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Comment ID: CTR-016-003  
Comment Author: San Francisco Bay RWQCB  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-02 Compliance Schedules  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: State Compliance Schedule Provisions

We support the inclusion of compliance schedule provisions and would like EPA to clarify the statement that "any appropriately adopted Basin Plan amendment concerning a compliance schedule would also be effective for the Basin." In 1995, our Basin Plan was formally amended to include a compliance schedule provision (p. 4-14, (f)--see attached). The state review and approval process of those amendments has been completed and we have submitted the amendments to EPA for approval.

Our interpretation is that the regional compliance schedule provisions adopted in Basin Plans would take precedence over any compliance schedule provisions promulgated in the final rule by EPA and that EPA will either formally approve our Basin Plan prior to final rulemaking, or amend the proposed rule such that state-adopted compliance schedule provisions automatically take precedence at the time the final step in the approval process has been completed.

Response to: CTR-016-003

See response to CTR-015-006.

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Comment ID: CTR-020-021  
Comment Author: City of Stockton  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: G-02 Compliance Schedules  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: V. Schedules of Compliance

The CTR specifies that schedules of compliance are authorized, but only if the Basin Plan specifically allows the inclusion of schedules in permits. While the City generally agrees that schedules of compliance should be available for new requirements, we disagree that the authority for schedules of compliance must be specifically stated in a Basin Plan. The Porter-Cologne Act itself authorizes schedules of compliance and pursuant to the decision in the Star-kist Caribe, Inc., NPDES Appeal No. 88-5 (may 26, 1992), such authorization is sufficient to allow a schedule of compliance. Stockton agrees that a schedule of at least five years should be allowed. For complex pollution situations such as those related to storm waters, a longer period of compliance should be allowed because the available methods for pollution reduction will take much longer to implement and assess. As EPA allows up to twenty years for compliance for combined sewer overflows (a similar wet weather problem), a twenty-year period should be specified for storm waters.

Response to: CTR-020-021

See response to CTR-015-006.

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Comment ID: CTR-021-002f  
Comment Author: LeBoeuf, Lamb, Green & MacRae  
Document Type: Local Government  
State of Origin: CA  
Represented Org: City of Sunnyvale  
Document Date: 09/25/97  
Subject Matter Code: G-02 Compliance Schedules  
References: Letter CTR-021 incorporates by reference letter CTR-035  
Attachments? Y  
CROSS REFERENCES G-04  
C-24a  
C-22  
K-01  
G-05

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Comment: Sunnyvale is very supportive of many fine concepts advanced in the proposed CTR, and we join with CASA/Tri-TAC in complimenting the Agency on its proposed positions with regard to such matters as: (a) the use of interim effluent limitations in NPDES permits during the pendency of TMDL and other special studies; (b) the allowance of water effects ratios in adjusting the criteria for metals without the necessity for additional rulemaking to establish site-specific objectives; (c) the use of the dissolved state for the metals criteria; (d) the use of cooperative, intergovernmental, and stakeholder-involved approaches towards the development of TMDLs;(e) the allowance of dilution for both chronic and acute pollutants; and (f) the allowance of compliance schedules in NPDES permits.

Response to: CTR-021-002f

EPA appreciates these comments providing support for EPA's allowance of compliance schedules in NPDES permits.

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Comment ID: CTR-022-003

Comment Author: SWRCB

Document Type: State Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: G-02 Compliance Schedules

References:

Attachments? N

**CROSS REFERENCES**

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Comment: Thank you for the opportunity to comment on the U.S. Environmental Protection Agency's (U.S. EPA) proposed California Toxic Rule (CTR). The State Water Resources Control Board (SWRCB) staff would like to recognize U.S. EPA's tremendous effort in producing the CTR. The SWRCB staff are providing you with the following comments:

Pages 42188 and 42208: State Compliance Schedule Provisions: The preamble indicates, if the CTR is adopted with compliance schedule provisions, any appropriately adopted basin plan provision authorizing compliance schedules would also be effective for the basin. We support this approach; however, it is not reflected in the wording of proposed Section 131.38(e).

In fact, at least two Regional Water Quality Control Boards have included compliance schedule provisions in their basin plans. These provisions allow compliance schedules of up to ten years in permits. In this respect the basin plan provisions are less stringent than the proposed rule. While the proposed rule states that "...where shorter schedules of compliance are prescribed or schedules of compliance are prohibited by law, those provisions shall govern", the rule does not clarify that existing basin plan provisions authorizing longer schedules are also effective.

Response to: CTR-022-003

See responses to CTR-013-007b and CTR-015-006.

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Comment ID: CTR-027-008b

Comment Author: California SWQTF

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-02 Compliance Schedules

References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040

Attachments? N

CROSS REFERENCES I-05

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Comment: 8. The proposed rule provides only a five-year compliance schedule to achieve compliance with the proposed water quality criteria. Again setting aside the issue of whether water quality standards actually apply to municipal stormwater discharges, municipal stormwater programs are long term BMP based programs. The proposed rule fails to recognize this, addressing all wet weather discharges together in one discussion. Municipal stormwater programs should be discussed and treated separately from all other wet weather and point source discharges. These are unique programs and cannot be placed in a "one-size fits all" regulatory program. The proposed rule needs to account for the nature of stormwater discharges by allowing more time for the MS4 long-term, BMP, source control program approach to take place for controlling pollutants in stormwater discharges.

The compliance schedule in the proposed rule discourages a watershed approach to improving water quality. The development and implementation of a watershed plan requires many years and many stakeholder involvements. However, the short compliance schedule in the CTR would actually encourage the discharger to forgo the watershed approach and address its toxicity issues separately and more expeditiously.

Recommendation: The rule should allow the State to establish compliance schedules. Short of this flexibility, the rule should be revised to provide a longer compliance schedule and to provide more flexible regulatory relief for MS4 dischargers who have fully complied with the MEP discharge standards but cannot achieve WQBELs compliance within the established compliance schedule. At a minimum, the CTR should follow the recommendation of the State Task Force on the Inland Surface Water Plan to provide a 15-year compliance schedule. Also provisions should be made for a longer compliance schedule when dischargers use a watershed approach to control toxic pollutants.

Response to: CTR-027-008b

See response to CTR-013-007b.

Further, in response to comments that EPA adopt a 15-year compliance schedule in order to accommodate schedules for developing TMDLs, EPA disagrees. The schedule for developing TMDLs is not relevant to compliance schedules; they are two totally separate issues. Compliance schedules address how long it will take in terms of technical or financial feasibility to meet an effluent limit established in an NPDES permit; they do not affect when the permit is issued. Moreover, while states may be adopting schedules for adopting TMDLs that extend up to 15 years, NPDES permits continue to be issued, even if this means they are issued before the TMDL is established for a particular waterbody. To do otherwise would be to stop the NPDES program until TMDLs are established. With regard to a situation in which a TMDL or watershed management program for the waterbody are scheduled for completion after the original compliance schedule has lapsed and justifiable delays in meeting WQBELs

arise, the discharger may apply for a variance from the water quality standard if the State develops an authorizing variance provision and the discharger meets the conditions set forth under 40 CFR 131.10(g).

The outside limit of ten years from the effective date of the rule means that dischargers whose permit is not renewed until the end of the ten year time frame will not be able to obtain a compliance schedule. EPA believes that this provision is nevertheless fair and reasonable for several reasons. First, based on the State's Implementation Plan [Reg. 9 put in correct title], EPA expects that the State will be able to reissue permits before the expiration of the ten year periods. Even if the State cannot do this, EPA thinks that ten years notice gives dischargers sufficient time to plan for meeting water quality based effluent limits, particularly given that the rest of the country has been subject since at least 1992 to such water quality standards either under state law or the National Toxics Rule ("NTR"). EPA promulgated the NTR for all states that did not have adequate criteria for toxic pollutants for which EPA had issued CWA section 304(a) criteria guidance.) Dischargers may also have sufficient notice because the State issued to many dischargers NPDES permits based on either the State's Inland Surface Waters Plan and Enclosed Bays and Estuaries Plan or narrative criteria similar to criteria in today's rule. Further, EPA also does not want to create an incentive for dischargers to have their permits re-issued later rather than sooner. Given the concern to have a level playing field among California dischargers, and those across the country who have all been subject to water quality criteria at least since 1992, EPA believes it is reasonable to cut off the compliance schedule for every discharger by ten years after the effective date of the rule.

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Comment ID: CTR-030-004a  
Comment Author: Utility Water Act Group  
Document Type: Trade Org./Assoc.  
State of Origin: DC  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-02 Compliance Schedules  
References:  
Attachments? Y  
CROSS REFERENCES G-04  
I

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Comment: D. EPA's Endorsement of Five-Year Compliance Schedules and Interim Permit Limits for Modifications is Appropriate

UWAG strongly supports EPA's recognition that modifications necessary to comply with new or more stringent effluent limitations may necessitate the use of five-year compliance schedules. 62 Fed. Reg. at 42,187, col. 3. UWAG believes, however, that in certain circumstances a longer compliance schedule may be appropriate. Steam electric facilities that need retrofits to meet water quality-based effluent limits (WQBELS) often require extensive engineering design and testing prior to the actual retrofit. Additionally, nuclear facilities must ensure that any design changes are compatible with Nuclear Regulatory Commission regulations. Therefore, the availability of five-year compliance schedules is certainly well-justified. Further, EPA should consider whether longer compliance schedules should be available, at least in some limited circumstances.

Additionally, UWAG strongly supports EPA's approval of interim permit limits for use in permit modifications. This flexibility will allow dischargers to stay in compliance while necessary process or

design changes are carried out.

Response to: CTR-030-004a

EPA appreciates these comments providing support for its compliance schedule provisions. With respect to EPA's decision on compliance schedule length see response to CTR-002-010b.

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Comment ID: CTR-031-005a

Comment Author: Fresno Metro. Flood Ctrl Dist.

Document Type: Flood Ctrl. District

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-02 Compliance Schedules

References: Letter CTR-031 incorporates by reference letter CTR-027

Attachments? N

CROSS REFERENCES I

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Comment: If the proposed rule is carefully and sufficiently modified to affirm a commitment by EPA to effect only its Congressional authorization as established by CWA section 402(p), then EPA's failure to assess municipal storm water dischargers' ability to attain the proposed standards and associated economic and environmental impacts may be set aside at this time. However, if EPA persists in maintaining the CTR as drafted in this regard, the ambiguities presented in the preamble demand serious consideration and analyses as follows.

a. Many of the criteria are not attainable or scientifically valid with regard to municipal stormwater dischargers, nor is the proposed approach consistent with an appropriate delegation of authority to the State.

iii. State Flexibility and Authority

The CTR states, "The criteria established in this section are subject to the State's general rules of applicability in the same way and to the same extent as are other Federally-adopted and State-adopted numeric toxics criteria when applied to the same use classifications..." p. 42206

This language supports State Water Resources Control Board decisions and the San Francisco Basin Plan which have made it clear that municipal storm water dischargers need to address water quality standards only through the implementation, and escalation as necessary, of best management practices. As noted previously, the language of this section must be better supported in the preamble.

Notwithstanding the above statement on page 42206, the CTR actually diminishes state flexibility in implementing the rule and is inconsistent with state compliance schedules. The CTR mandates implementation limits on the state and implies a 5-year limit on compliance.

A five-year compliance schedule for municipal storm water dischargers is entirely inconsistent with the State's, EPA'S, and Phase II stakeholder's understanding of the unique challenges of storm water permitting. The draft Phase II regulation submitted to OMB includes a comprehensive reevaluation of storm water programs after two permit terms, and recommends no added best management practices or

changes in the Phase II program until such evaluation and research are completed.

Response to: CTR-031-005a

See response to CTR-013-007b.

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Comment ID: CTR-032-002i

Comment Author: Las Gallinas Val. Sanitary Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-02 Compliance Schedules

References: Letter CTR-032 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES G-01

C-22

G-09

C-24a

C-24

K

G-04

G-02

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Comment: Regulatory Flexibility and Relief

The District supports EPA's use of "sound science" and current data in developing the proposed criteria in the California Toxics Rule (CTR). The District strongly supports language in the Preamble that references and endorses recommendations of the State Task Forces including use in permitting of:

\* reasonable potential analyses \* dissolved metals criteria \* translators \* water effects ratios \* site specific objectives \* innovative TMDL processes such as effluent trading \* performance based interim limits \* chronic and acute mixing zones, and \* compliance schedules in NPDES permits.

Response to: CTR-032-002i

EPA appreciates these comments providing support for its compliance schedule provisions.

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Comment ID: CTR-034-013

Comment Author: SCAP

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-02 Compliance Schedules

References: Letter CTR-034 incorporates by reference letter CTR-035

Attachments? N

## CROSS REFERENCES

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Comment: \* SCAP endorses the inclusion in the draft CTR of a provision authorizing the use of compliance schedules in NPDES permits. We agree with the rationale for its inclusion, since immediate and full compliance by dischargers simply is not always possible or practicable. We strongly urge EPA, however, to consider modifying this provision to authorize the issuance of permits containing compliance schedules of up to 15 years. While schedules that long need not always be granted, we believe that including the authority in the CTR would allow greater flexibility in crafting control strategies as EPA and the State implement watershed-based approaches, and would foster greater opportunities to pursue pollution prevention avenues before moving to extreme measures, such as advanced end-of-pipe treatment.

Response to: CTR-034-013

See response to CTR-027-008b.

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Comment ID: CTR-035-037

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-02 Compliance Schedules

References:

Attachments? N

## CROSS REFERENCES

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Comment: pp. 42187-42188 -- Schedules of Compliance We support the inclusion in the CTR of a provision authorizing the use of compliance schedules in permits, as authorized by the Clean Water Act. We agree with EPA's statement in the Preamble explaining the need for compliance schedule authorization, "because of the potential for existing dischargers to have new or more stringent effluent limitations, under the final rule, for which immediate compliance would not be possible or practicable." However, periods of time longer than 5 years may sometimes be necessary and appropriate. Consistent with the 1990 Starkist-Caribe Order, EPA has full authority to promulgate a compliance schedule provision, and there is no limitation in the Clean Water Act on the length of such a provision (U.S. EPA, 1990a). Therefore, based on the consensus recommendation of the Permitting and Compliance Issues Task Force, we urge EPA to allow up to 15 years for water quality standards to be met and to include a provision in the regulation stating that compliance schedules in NPDES permits for achievement of final effluent limitations based on the water quality criteria being promulgated may not extend beyond the compliance deadline for the standards (SWRCB, 1995, Part VI). The 5-year time frame assumes that a rapid response through source control, treatment plant operational changes, and/or major structural improvements is possible. However, once a decision is made to proceed with a project, planning, financing, design and construction can take more than 5 years. Further, we believe that a longer time frame may be suitable in cases where TMDLs are necessary and/or a watershed management program is underway but not complete. In such cases, it may make more sense for dischargers to pursue actions other than end-of-pipe treatment, such as monitoring, pollution prevention programs, water-effect ratio studies, investigation of pollutant trading opportunities, etc. (We also would like to point out that, in such cases, interim limits may be more appropriate than final effluent limits with compliance schedules.) This

is particularly true for pollutants which are not easily controlled (short of adding advanced treatment) through traditional industrial waste controls, and which must be reduced through new and innovative means (for instance, public education programs, installation of BMPs, etc.). A 15-year time frame is also consistent, we believe, with the guidance to EPA Regions issued by Assistant Administrator for Water Robert Perciasepe in August 1997, which directs States to submit schedules for developing TMDLs for all listed waters over an 8 to 13 year time period (U.S. EPA, 1997d). As this time frame does not include the implementation of measures to comply with Waste Load Allocations and Load Allocations to be developed through the TMDL process, we believe that even the 15-year time frame is optimistic for meeting water quality standards in all impaired water bodies, especially given the small number initiated in California to date and the large number of water bodies listed as impaired on California's 303(d) list.(\*1)

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(\*1) 386 water bodies were listed by the state of California on the 303(d) list as of 1996 (SWRCB, 1996). Many of these water bodies were listed for multiple pollutants or stressors.

Response to: CTR-035-037

See response to CTR-027-008b.

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Comment ID: CTR-036-010a

Comment Author: County of Orange

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-02 Compliance Schedules

References: Letter CTR-036 incorporates by reference letters CTR-013, CTR-018, CTR-031, CTR-034 and CTR-040

Attachments? N

CROSS REFERENCES I

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Comment: We are concerned that the five-year compliance period for stormwater discharges to meet the criteria is untenable. The linkage between the application of best management practices and water quality benefits is long term and will thus be hard to demonstrate. Even in a direct product substitution situation, such as the removal of leaded gasoline from fuels, data from Orange County shows a very slow and long-term reduction in lead concentrations in our water bodies over multiple years.

Response to: CTR-036-010a

See response to CTR-013-007b.

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Comment ID: CTR-038-012

Comment Author: Sonoma County Water Agency

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-02 Compliance Schedules

References:

Attachments? Y

**CROSS REFERENCES**

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Comment: 11. EPA should provide for a compliance schedule of 15 years, consistent with the recommendation of the State Plan Public Task Forces, where dischargers with potential compliance problems are pursuing watershed management and other reasonable activities. The Preamble discusses a number of reasonable and responsible actions that a discharger might pursue to address toxic pollutants including, but not limited to: monitoring of sources, discharges and ambient waters; development of best management practices; development of pollution prevention programs; optimizing treatment plant operations for toxics removal; dilution studies; translator studies; water-effect ratio studies; risk assessments; TMDL studies; investigation of pollutant trading opportunities; and conduct of watershed management studies. On the other hand, the proposed rule states that dischargers should generally be able to comply with the rule within 3 years and, at most, will be allowed a maximum of 5 years from the issuance of a permit to comply. These are obviously conflicting principles. Where dischargers are pursuing reasonable and responsible actions, such as those previously listed, the CTR should allow permit authorities to defer placement of final effluent limits based on CTR criteria in permits, and instead provide for interim permit limits consistent with the recommendations of the State Plan Public Task Forces. Also, consistent with the Task Force recommendations, the CTR should allow up to 15 years from the date of the rule to achieve compliance rather than the 10 years allowed in the proposed CTR. Such a provision would have the result of encouraging dischargers to participate in activities, such as watershed management, that will further the goals of the Clean Water Act, The presently proposed rule would have the effect of discouraging such activities.

Response to: CTR-038-012

See responses to CTR-013-07b and CTR-027-008b.

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Comment ID: CTR-039-007

Comment Author: San Francisco BayKeeper

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-02 Compliance Schedules

References:

Attachments? N

**CROSS REFERENCES**

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Comment: On behalf of San Francisco BayKeeper, its Stockton-based DeltaKeeper project, San Diego BayKeeper and Santa Monica BayKeeper (hereinafter "BayKeeper"), I am submitting these comments for consideration in finalizing EPA's proposed rule establishing water quality criteria for priority toxic pollutants for the waters of the State of California. The need for numeric criteria for priority toxic pollutants was identified by Congress ten years ago when, in October, 1987, it enacted amendments to the Clean Water Act mandating that States issue such criteria by not later than October 18, 1990. The State of California adopted a portion of the mandated criteria in April, 1991, which, in large part, EPA

approved. However, even that partial compliance was thwarted by the Sacramento Superior Court's overly broad decision vacating the State's decision based solely on a flawed economic analysis purportedly required by State law.

Now, seven years later, although appreciative of the complexity of the task required by Congress, BayKeeper is deeply concerned that EPA's proposed rule to cure the State's violation will undermine permit limits promulgated throughout the Bay area and other regions, allowing more pollution to be discharged to San Francisco Bay and other state waters in violation of the State and EPA's antidegradation policies. BayKeeper also is very concerned that EPA is promulgating criteria for mercury, dioxin and 13 other pollutants which are based on drastic underestimates of the quantity of fish consumed by recreational and subsistence anglers throughout the State of California. BayKeeper also believes that at this late date, the proposal to allow compliance schedules which could delay for up to ten years compliance with permit effluent limitations based upon the proposed criteria is inappropriate given the already seven year delay suffered by California's aquatic ecosystems and the people who depend upon the health of those systems for food and recreation.

#### V. EPA SHOULD NOT INCLUDE AUTHORITY FOR COMPLIANCE SCHEDULES IN ITS PROPOSED CRITERIA

As noted above, the proposed criteria, good or bad, are now seven years late. However, the State did have some criteria established for a three year period between 1991 and 1994. Thus, the regulated community has had ample notice of the criteria to come. indeed, a significant number of dischargers have been subject to permits based on approved criteria for upwards of five years. There is no scientific reason for EPA to perpetuate the delay and cause the State's aquatic ecosystems to further suffer toxic contamination that Congress mandated be addressed by October of 1990. Compliance schedules would be inconsistent with Congress' mandate. Moreover, compliance schedules would not be fair to those dischargers who already have been required to comply with the State's criteria issued in 1991. EPA should strike the compliance schedule authority from the proposed rule and leave the question of the need for compliance schedules to the State.

Response to: CTR-039-007

With respect to EPA's decision to include a compliance schedule, see response to CTR-002-010b. With respect to the relationship between EPA's compliance schedule and State adopted compliance schedules, see response to CTR-015-006. With respect to the comment that the CTR may degrade water quality in violation of antidegradation policy, see responses to CTR-002-010a (Category A; Antidegradation) and CTR-039-004 (Category C-14; Fish/Water Consumption). With respect to the comments on fish consumption, see response to CTR-002-002a (Category C-14; Fish/Water Consumption).

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Comment ID: CTR-040-019

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-02 Compliance Schedules

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

## CROSS REFERENCES

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Comment: VI. Recommendation: Provide for a compliance schedule of 15 years, consistent with the recommendation of the State Plan Public Task Forces, where dischargers with potential compliance problems are pursuing watershed management and other reasonable actions.

\* The Preamble discusses a number of reasonable and responsible actions that a discharger might pursue to address toxic pollutants including, but not limited to: monitoring of sources, discharges and ambient waters; development of best management practices; development of pollution prevention programs; optimizing treatment plant operations for toxics removal; dilution studies; translator studies, water-effect ratio studies; risk assessments; TMDL studies; investigation of pollutant trading opportunities; and watershed management studies.

\* On the other hand, the proposed Rule states that dischargers should generally be able to comply with the Rule within 3 years and, at most, will be allowed a maximum of 5 years from the issuance of a permit to comply. These are obviously conflicting principles.

\* Where dischargers are pursuing reasonable and responsible actions, such as those previously listed, the Rule should allow permit authorities to defer placement of effluent limits based on Rule criteria in permits, and instead provide for interim permit limits consistent with the recommendations of the State Plan Public Task Forces.

\* Also, consistent with the State Plan Public Task Force's recommendations, the Rule should allow up to 15 years from the date of its promulgation to achieve compliance rather than the 10 years currently proposed. Such a provision would have the result of encouraging dischargers to participate in activities, such as watershed management and development of TMDLs, that will further the goals of the CWA. (In other documents, EPA has acknowledged that the TMDL process may take 8 - 13 years). The Rule, as it is presently proposed, will have the effect of discouraging such activities.

Response to: CTR-040-019

See response to CTR-027-008b.

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Comment ID: CTR-041-012

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-02 Compliance Schedules

References:

Attachments? N

CROSS REFERENCES

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Comment: 7. EPA Should Provide a Compliance Schedule of Fifteen Years

EPA should provide for a compliance schedule of fifteen years, consistent with the recommendation of the State Plan Public Task Forces, where dischargers with potential compliance problems are pursuing

watershed management and other reasonable activities. The Preamble discusses a number of reasonable and responsible actions that a discharger might pursue to address toxic pollutants including, but not limited to; monitoring of sources, discharges and ambient waters; development of best management practices; development of pollution prevention programs; optimizing treatment plant operations for toxics removal; dilution studies, translator studies; water-effect ratio studies, risk assessments; TMDL studies; investigation of pollutant trading opportunities; and conduct of watershed management studies. On the other hand, the proposed rule states that dischargers should generally be able to comply with the rule within three years and, at most, will be allowed a maximum of five years from the issuance of a permit to comply. These are obviously conflicting principles. Where dischargers are pursuing reasonable and responsible actions, such as those previously listed, the CTR should allow permit authorities to defer placement of final effluent limits based on CTR, criteria in permits, and instead provide for interim permit limits consistent with the recommendations of the State Plan Public Task Forces. Also, consistent with the Task Force recommendations, the CTR should allow up to fifteen years from the date of the rule to achieve compliance rather than the five years allowed in the proposed CTR. Such a provision would have the result of encouraging dischargers to participate in activities, such as watershed management, that will further the goals of the Act. The presently proposed rules will have the effect of discouraging such activities.

Response to: CTR-041-012

See response to CTR-027-008b.

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Comment ID: CTR-043-010

Comment Author: City of Vacaville

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: G-02 Compliance Schedules

References:

Attachments? Y

**CROSS REFERENCES**

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Comment: 10. EPA should provide for a compliance schedule of 15 years, consistent with the recommendation of the State Plan Public Task Forces. The Preamble discusses a number of reasonable and responsible actions that a discharger might pursue to address toxic pollutants including, but not limited to: monitoring of sources, discharges and ambient waters; development of best management practices; development of pollution prevention programs; optimizing treatment plant operations for toxics removal; dilution studies; translator studies; water-effect ratio studies; risk assessments; TMDL studies; investigation of pollutant trading opportunities; and conduct of watershed management studies. On the other hand, the proposed rule states that dischargers should generally be able to comply with the rule within 3 years and, at most, will be allowed a maximum of 5 years from the issuance of a permit to comply. These are obviously conflicting principles. Where dischargers are pursuing reasonable and responsible actions, such as those previously listed, the CTR should allow permit authorities to defer placement of final effluent limits based on CTR criteria in permits, and instead provide for interim permit limits consistent with the recommendations of the State Plan Public Task Forces. Also, consistent with the Task Force recommendations, the CTR should allow up to 15 years from the date of the rule to achieve compliance rather than the 5 years allowed in the proposed CTR. Such a provision would have

the result of encouraging dischargers to participate in activities, such as watershed management, that will further the goals of the Act. The presently proposed rule would have the effect of discouraging such activities.

Response to: CTR-043-010

See response to CTR-027-008b.

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Comment ID: CTR-044-011

Comment Author: City of Woodland

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: G-02 Compliance Schedules

References:

Attachments? Y

CROSS REFERENCES

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Comment: We have reviewed the proposed CTR and offer the following comments:

10. EPA should provide for a compliance schedule of 15 years, consistent with recommendation of the State Plan Public Task Forces. The Preamble discusses a number of reasonable and responsible actions that a discharger might pursue to address toxic pollutants including, but not limited to: monitoring of sources, discharges and ambient waters; development of best management practices; development of pollution prevention programs; optimizing treatment plant operations for toxics removal; dilution studies; translator studies; water-effect ratio studies; risk assessments; TMDL studies; investigation of pollutant trading opportunities; and conduct of watershed management studies. On the other hand, the proposed rule, states that dischargers should generally be able to comply with the rule within 3 years and, at most, will be allowed a maximum of 5 years from the issuance of a permit to comply. These are obviously conflicting principles. Where dischargers are pursuing reasonable and responsible actions, such as those previously listed, the CTR should allow permit authorities to defer placement of final effluent limits based on CTR criteria in permits, and instead provide for interim permit limits consistent with the recommendations of the State Plan Public Task Forces. Also, consistent with the Task Force recommendations, the CTR should allow up to 15 years from the date of the rule to achieve compliance rather than the 5 years allowed in the proposed CTR. Such a provision would have the result of encouraging dischargers to participate in activities, such as watershed management, that will further the goals of the Act. The presently proposed rule would have the effect of discouraging such activities.

Response to: CTR-044-011

See response to CTR-027-008b.

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Comment ID: CTR-045-003

Comment Author: Sausalito-Marin Sanitary Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: G-02 Compliance Schedules  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: The District supports many of the items included in the proposed CTR:

The inclusion of a provision to allow compliance schedules in permits. It is suggested that this provision be modified to allow Regional Water Quality Control Boards (RWQCBS) to include compliance schedules of up to 15 years in permits, if they deem it appropriate.

Response to: CTR-045-003

See response to CTR-027-008b.

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Comment ID: CTR-052-020  
Comment Author: East Bay Dischargers Authority  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-02 Compliance Schedules  
References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054  
Attachments? Y  
CROSS REFERENCES

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Comment: C. RECOMMENDATIONS FOR MODIFICATIONS TO THE CTR AND EA

EPA should provide for compliance schedules of up to 15 years. This would be consistent with the consensus recommendation of the State Plan Public Task Forces, and allow dischargers the necessary flexibility to develop cost effective solutions prior to considering end-of-pipe treatment options.

Response to: CTR-052-020

See response to CTR-027-008b.

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Comment ID: CTR-053-004  
Comment Author: Heal the Bay  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-02 Compliance Schedules  
References: Letter CTR-053 incorporates by reference letter 6 and the comments on Dioxin, copper, and

the compliance schedule from letter CTR-002

Attachments? N

#### CROSS REFERENCES

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Comment: We also agree with the concerns of our colleagues regarding the allowance of compliance schedules in permits to meet the California Toxics Rule. Compliance schedules are required in enforcement orders for any exceedance of numeric criteria. We, therefore, agree with and incorporate by reference CBE's comments on compliance schedules.

Response to: CTR-053-004

See response to CTR-002-010b.

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Comment ID: CTR-054-012

Comment Author: Bay Area Dischargers Assoc.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-02 Compliance Schedules

References:

Attachments? Y

#### CROSS REFERENCES

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Comment: EPA should provide for a compliance schedule of 15 years, consistent with the recommendation of the State Plan Public Task Forces, where dischargers with potential compliance problems are pursuing watershed management and other reasonable activities. The Preamble discusses a number of reasonable and responsible actions that a discharger might pursue to address toxic pollutants including, but not limited to: monitoring of sources, discharges and ambient waters; development of best management practices; development of pollution prevention programs; optimizing treatment plant operations for toxics removal; dilution studies; translator studies; water-effect ratio studies; risk assessments; TMDL studies; investigation of pollutant trading opportunities; and conduct of watershed management studies. On the other hand, the proposed rule states that dischargers should generally be able to comply with the rule within 3 years and, at most, will be allowed a maximum of 5 years from the issuance of a permit to comply. These are obviously conflicting principles. Where dischargers are pursuing reasonable and responsible actions, such as those previously listed, the CTR should allow permit authorities to defer placement of final effluent limits based on CTR criteria in permits, and instead provide for interim permit limits consistent with the recommendations of the State Plan Public Task Forces. Consistent with the Task Force recommendations, the CTR should allow up to 15 years from the date of the rule to achieve compliance rather than the 5 years allowed in the proposed CTR. Such a provision would have the result of encouraging dischargers to participate in activities, such as watershed management, that will further the goals of the Act. The presently proposed rules will have the effect of discouraging such activities.

Response to: CTR-054-012

See response to CTR-027-008b.

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Comment ID: CTR-056-010  
Comment Author: East Bay Municipal Util. Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: G-02 Compliance Schedules  
References: Letter CTR-056 incorporates by reference letter CTR-054  
Attachments? N  
CROSS REFERENCES

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Comment: Second, EBMUD would like to express to EPA its support for inclusion of:

\* The inclusion in the rule of a provision allowing compliance schedules in NPDES permits (although this provision should be modified to enable RWQCBs to include compliance schedules of up to 15 years in permits if it is determined to be appropriate).

Response to: CTR-056-010

See response to CTR-027-008b.

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Comment ID: CTR-058-007  
Comment Author: Western States Petroleum Assoc  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-02 Compliance Schedules  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: Compliance Schedules. WSPA supports EPA's recognition of the need for granting appropriate but flexible compliance schedules, with timeframes up to and including five years. This is especially true in cases when treatment technology is not available and must be developed to deal with a specific pollutant which has not been regulated in the permit previously.

WSPA members have detailed and intimate personal experience with the struggle and timeframe needed to come into compliance with highly restrictive and challenging water-quality based effluent limitations (WQBELs). WSPA and the SFRWQCB have collaborated on the detailed studies (which include studies of the significant secondary impacts) needed to meet the very stringent selenium limits set for Bay Area refineries. Selenium is a contaminant which typically occurs in refinery wastewaters at concentrations much less than 0.5 mg/L (roughly the practical level for heavy metal treatment technology when our studies begin). Its chemistry is very complex and was not well understood when industry began its studies.

The timeframe for the selenium studies and compliance schedule is as follows:

1. 3rd quarter 1992: WSPA members begin meeting to develop technology to meet RWQCB refinery selenium limits. Studies begin approximately the end of 1992.
2. 2nd quarter 1993: WSPA invites the RWQCB to participate in the selenium studies. Annual interim reports to RWQCB are made.
3. 3rd quarter 1995. The consolidated WSPA technology studies are completed and reported to the RWQCB.
4. 1995/1996. Individual refineries pilot the technology(ies) of their choice.
5. July 31, 1998: compliance deadline for new limits; meanwhile interim limits apply.

RWQCB staff participated in our assessment and development of available technology options. One of the primary reasons for the technology studies was to pursue alternatives to the iron coprecipitation process because this process generates vast quantities of potentially "toxic" solid waste (using California definitions). In addition to the WSPA coordinated studies, two refineries actively pursued other promising technologies specific to their facilities. These technologies were ultimately dropped due to technical deficiencies. Evaluating the alternatives took time and was a valuable part of the study even though, in the end, they did not workable results. In any case, the refineries still anticipate meeting the compliance deadline. We think the regulatory community would agree with us that even given the significant resources devoted to assessing the efficacy and appropriateness of various technologies, these studies take time to do well. However, to address complex and difficult WQBELS, this anecdote illustrates the need for permit writers to have the flexibility to work with dischargers on compliance schedules which in some cases may be very lengthy.

The use of compliance schedules is amply supported by existing regulations and practice, and makes for a practical approach to achieving the goals of the Act.

**Response to:** CTR-058-007

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Comment ID: CTR-059-013

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: G-02 Compliance Schedules

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

**CROSS REFERENCES**

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Comment: The Sanitation Districts supports the inclusion in the draft CTR of a provision authorizing the use of compliance schedules in NPDES permits. We agree with the rationale for its inclusion, since immediate and full compliance by dischargers simply is not generally possible or practicable. We strongly urge EPA, however, to consider modifying this provision to authorize the issuance of permits

containing compliance schedules of up to 15 years. We believe that including the authority in the CTR would foster greater opportunities to pursue pollution prevention avenues before moving to extreme measures, such as advanced end-of-pipe treatment. The ability to allow longer compliance schedules is especially critical, we believe, to the success of watershed management projects and the development of TMDLs (especially phased TMDLs).

Response to: CTR-059-013

See response to CTR-027-008b.

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Comment ID: CTR-060-005

Comment Author: San Diego Gas and Electric

Document Type: Electric Utility

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: G-02 Compliance Schedules

References:

Attachments? N

CROSS REFERENCES

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Comment: PROVISIONS SDG&E DOES NOT SUPPORT

As described in the following comments SDG&E does not support the following provisions:

Compliance Periods No Longer than 5 Years

The preamble and rule describe the use of compliance schedules by existing dischargers where they find that they cannot immediately comply with a new more restrictive water quality based effluent limit (see 62 Fed. Reg. at 42187, Col. 1-3; and 62 Fed. Reg. at 42208, Col. 1-3). SDG&E supports the use of compliance schedules. However, the preamble and rule limit the term of compliance schedules to five years from the issuance of the new effluent limit. This duration may not be adequate where a TMDLA/VLA/LA process is necessary or may not accommodate the time needed to investigate alternative compliance methods, develop and obtain approval of site specific criteria, design and engineer necessary modifications to the facility and to obtain necessary financing. The SWRCB's Task Forces' Final Report ("Reports of the Public Advisory Task Forces to the State Water Resources Control Board Regarding the Development of the Inland Surface Waters Plan and the Enclosed Bays and Estuaries Plan"; October, 1995) recommended the use of compliance periods up to 15 years. SDG&E recommends that the rule be modified to allow for up to 15 year durations for compliance schedules.

Response to: CTR-060-005

See response to CTR-027-008b.

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Comment ID: CTR-066-004

Comment Author: Delta Diablo Sanitation Dist.

Document Type: Sewer Authority

State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-02 Compliance Schedules

References:

Attachments? N

CROSS REFERENCES

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Comment: Our preliminary review of the CTR finds several areas that we believe are positive changes and will enhance the rulemaking. The areas that we support as now written are as follows:

\* The inclusion of a provision allowing compliance schedules in permits in the rule, although the provision should be modified to allow the Regional Water Quality Control Boards (RWQCBs) to include compliance schedules of up to 15 years in permits if they deem it appropriate.

Response to: CTR-066-004

See response to CTR-027-008b.

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Comment ID: CTR-067-005  
Comment Author: Ojai Valley Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-02 Compliance Schedules

References:

Attachments? N

CROSS REFERENCES

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Comment: \* Having just completed an eight (8) year, twenty-eight (28) million dollar project to meet more stringent effluent limits, OVSD strongly endorses the inclusion in the draft CTR of a provision authorizing compliance schedules of up to 15 (fifteen) years in NPDES permits. Tremendous effort and time are required for a POTW to sample for and identify potential pollutants, negotiate the permit(s) with the applicable regulatory agencies, perform the necessary environmental studies to determine the impact of the pollutant(s) observed, identify potential solutions/mitigation measures and their costs, and then to design and build additional treatment facilities. Although 15 (fifteen) years may not always need to be granted, allowing the flexibility of extended compliance schedules would be very beneficial to OVSD (and other POTWs) and the Regional Water Quality Control Boards. This is true not only for the reasons stated above, but also because extended compliance schedules would allow time for the development and implementation of the relatively new watershed-based management approach.

Response to: CTR-067-005

See response to CTR-027-008b.

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Comment ID: CTR-081-002c  
Comment Author: West County Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-02 Compliance Schedules  
References:  
Attachments? N  
CROSS REFERENCES G-04  
C-24a  
C-22  
G-09  
C-01a  
C-08a  
G-05

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Comment: \* There are many aspects of the CTR that we support. These include: a) Application of interim limits while special studies are performed. b) Approach to water effect ratios for determining site specific criteria. c) Inclusion of provision for compliance schedules. However, this should be modified to allow inclusion of compliance schedules of up to 15 years in permits if deemed appropriate by Regional Boards. d) Metals criteria expressed as dissolved rather than total recoverable concentrations. e) EPA's guidance to Regional Boards regarding use of translators. f) EPA's proposal to create a rebuttal presumption for Water Effects Ratios, g) Revised human health criteria for mercury h) Decision to not promulgate human health criteria at this time in light of issues surrounding health criteria for arsenic. i) EPA's policies regarding application of mixing zones and dilution credits.

Response to: CTR-081-002c

See response to CTR-027-008b.

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Comment ID: CTR-082-002  
Comment Author: City of Burbank  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: G-02 Compliance Schedules  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: The subject rule has a significant impact on our facility discharge and the citizens of the City. We therefore present the following comments for your consideration to re-open the comment period for this rule in order to facilitate a more complete review by public and in particular by those in the POTW community:

\* The inclusion of a provision allowing compliance schedules in permits in the rule, should be modified

to allow the Regional Water Quality Control Board's (RWQCB's) to include compliance schedule of up to 15 years if they deem it is appropriate.

Response to: CTR-082-002

See response to CTR-027-008b.

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Comment ID: CTR-085-005

Comment Author: Camarillo Sanitary District

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: G-02 Compliance Schedules

References:

Attachments? N

**CROSS REFERENCES**

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Comment: On several aspects of the California Toxics Rule, the District is in agreement with CASA and SCAP comments:

\* The inclusion of a provision allowing compliance schedules in permits in the rule although the provisions should be modified to allow the Regional Water Quality Control Boards (RWQCB) to include compliance schedules of up to 15 years in permits if they deem it appropriate.

Response to: CTR-085-005

See response to CTR-027-008b.

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Comment ID: CTR-086-004i

Comment Author: EOA, Inc.

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org: California Dent

Document Date: 09/26/97

Subject Matter Code: G-02 Compliance Schedules

References: Letter CTR-086 incorporates by reference letter CTR-035

Attachments? N

**CROSS REFERENCES G-01**

C-22

G-09

C-24a

C-24

K-03

G-04

G-05

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Comment: Regulatory Flexibility and Relief

CDA supports language in the CTR Preamble that references and endorses recommendations of the State Task Forces including in part the use of.

\* reasonable potential analyses \* dissolved metals criteria \* translators \* water effects ratios \* site specific objectives \* innovative TMDL processes such as effluent trading \* performance based interim limits \* chronic and acute mixing zones, and \* compliance schedules in NPDES permits.

Response to: CTR-086-004i

See response to CTR-027-008b.

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Comment ID: CTR-089-001f

Comment Author: Las Virgenes Mncpl Water Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: G-02 Compliance Schedules

References:

Attachments? N

CROSS REFERENCES C-22

C-01a

C-08a

G-05

K-01

G-09

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Comment: The draft California Toxics Rule (CTR) is clearly the product of substantial effort by USEPA staff, and we applaud this effort and its intent. On several issues of concern to public utilities, the CTR strikes a good balance between the need to promulgate standards and the need to base those standards on sound science. Examples include the use of dissolved concentrations rather than the total recoverable concentrations for metals, the deferral of human health criteria for arsenic until adequate information is available, and the revision of the human health criterion for mercury. We are also pleased with the CTR's guidance and flexibility, on mixing zones and dilution credits, total maximum daily loads (TMDLs), compliance schedules, and translators.

Response to: CTR-089-001f

EPA appreciates these comments for providing support for EPA's allowance of compliance schedules in NPDES permits.

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Comment ID: CTR-090-002e

Comment Author: C&C of SF, Public Utl. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-02 Compliance Schedules

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES C-17a

C-24a

C-22

G-05

G-04

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Comment: There are many features of the proposed rule which we strongly endorse, specifically:

- \* the use of the latest IRIS values for human health criteria, it is essential that the criteria be based on the latest scientific and environmental information;
- \* recognition that the dissolved fraction of metals, rather than the total recoverable, better reflect the aquatic toxicity of metals;
- \* recognition that for certain metals (e.g. copper and zinc) ambient water chemistry is critical in determining toxicity thereby endorsing the Water Effects Ratio;
- \* recognition and strong endorsement of the multi-tiered mixing zones for acute, chronic and human health effects; and
- \* recognition of interim limits and compliance schedules as appropriate implementation strategies,

Response to: CTR-090-002e

See response to CTR-027-008b.

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Comment ID: CTR-090-024

Comment Author: C&C of SF, Public Util. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-02 Compliance Schedules

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

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Comment: Compliance Schedules -- The PUC supports the use of compliance schedules as part of the NPDES permit process, however, we oppose establishing any ceiling in the CTR for the duration of such schedules. If water shed based solutions are to be implemented, these will require a much as a 10 to 15 years to begin to show significant results. it would be most unwise to burden small contributors of toxicants with large expenses, until such time as the efficacy of water shed approaches can be established in the specific water sheds.

Even in cases where there is a clear and immediate indication that a POTW will have to undertake significant process upgrading to achieve CTR based WQBEL effluent limitations, the five year period for compliance is simply unrealistic. It would be difficult for a municipality or regional sanitation agency to arrange financing, plan and undertake CEQA procedures, design, construct and run process shake down within five years for any major wastewater project.

Rather than incorporate a compliance schedule ceiling in the CTR, the CTR should simply state that compliance schedules can be established by the RWQCBs on a case by case basis.

Response to: CTR-090-024

See response to CTR-027-008b. With respect to the relationship between EPA's compliance schedule and State adopted compliance schedules see response to CTR-015-006.

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Comment ID: CTR-092-009  
Comment Author: City of San Jose, California  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-02 Compliance Schedules  
References: Letter CTR-092 incorporates by reference letter CTR-035  
Attachments? Y  
CROSS REFERENCES

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Comment: Schedules of Compliance

The City endorses compliance schedules as an interim sequence of events which lead to compliance with water quality-based effluent limitations. The City further supports the authorizing compliance schedule provision contained in the CTR but advocates a period of 15 years to comply with such limitations. The 15 year time period is consistent with 1997 guidance issued by Assistant Administrator Robert Perciasepe regarding the development of TMDLs over an 8 to 13 year timeframe.

Response to: CTR-092-009

See response to CTR-027-008b.

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Comment ID: CTR-095-004  
Comment Author: M. Ruth Uiswander  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 10/02/97  
Subject Matter Code: G-02 Compliance Schedules  
References:  
Attachments? N

## CROSS REFERENCES

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Comment: Also, it is unconscionable to postpone compliance with the new proposals for up to 10 years. This is unacceptable. Facts must be faced and prevention measures to taken now. Cancer is epidemic! We must act!

Response to: CTR-095-004

See response to CTR-002-010b.

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Comment ID: CTR-104-003

Comment Author: Lucy Nelson, et. al.

Document Type: Citizen

State of Origin: CA

Represented Org:

Document Date: 10/15/97

Subject Matter Code: G-02 Compliance Schedules

References:

Attachments? N

## CROSS REFERENCES

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Comment: "Compliance schedules" could postpone compliance for up to 10 years. There has already been a 7 year delay in reaching this proposal stage, so further procrastination is completely unacceptable.

Response to: CTR-104-003

See response to CTR-002-010b.

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Comment ID: CTR-106-003

Comment Author: Robert Brown

Document Type: Citizen

State of Origin: CA

Represented Org:

Document Date: 10/28/97

Subject Matter Code: G-02 Compliance Schedules

References:

Attachments? N

## CROSS REFERENCES

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Comment: "Compliance schedules" could postpone compliance for up to 10 years. There has already been a 7 year delay in reaching this proposal stage, so further procrastination is completely unacceptable.

Response to: CTR-106-003

See response to CTR-002-010b.

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Comment ID: CTR-107-002b  
Comment Author: Brian E. Hill  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-02 Compliance Schedules  
References:  
Attachments? Y  
CROSS REFERENCES E-01  
E-01n

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Comment: On September 17, I attended a hearing on the proposed CTR at the EPA's regional office in San Francisco. Here are some key issues from the testimony at that hearing:

- \* Some of the limits are below normal detection limits, therefore agencies have no background data in order to perform accurate attainability analysis.
- \* The cost of implementation by the EPA is grossly underestimated. The economic analysis shows at maximum implementation cost of \$87 million. If preliminary estimates by publicly owned treatment works (POTW) are correct, implementation of the CTR will far exceed the \$100 million provision of the Porter-Cologne Act. If this is the case, feasibility of implementation will be in jeopardy. The City of Merced, CA estimates that their additional cost would be \$4 million annually. Merced has a very small treatment facility.
- \* Robert Reid, speaking on behalf of California Association of Sanitation Agencies (CASA), said that four San Francisco Plants estimate their total implementation costs to be \$160 million annually.
- \* Charles Batts of Bay Area Dischargers Authority (BADA) estimated five BADA POTWs costs to be \$12 million per year to meet the strict limit on copper and \$56 million per year to meet the organics limit.
- \* The Regional Water Quality Control Board testified that San Francisco discharges twenty percent of the four percent discharged into the San Francisco Bay by POTWS, noting that POTWS are only a minor part of the volume discharged into the Bay. Thus, the reduction to the prescribed limits would cause a negligible decrease in the total mass of pollutants discharged.
- \* The City of Sacramento projects a \$200 million annual cost will be required to meet the copper limit.

All of the testimony at the hearing echoed these concerns. I am sure that you have access to a transcript. The Clean Water Act has been and is instrumental in cleaning up our rivers, lakes, bay and estuaries. We can continue on this steady path by setting gradual attainable limits and through increased public education. Limits on pollutants should continue to get stricter, but this has to occur on a gradual curve that will not place an unreasonable burden on the individual taxpayer.

Response to: CTR-107-002b

See response to CTR-107-002a.

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Comment ID: CTR-109-004  
Comment Author: Maggie Miller  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 12/01/97  
Subject Matter Code: G-02 Compliance Schedules  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Fourth, the proposed new rule also contemplates "compliance schedules" could postpone up to ten years compliance with the proposed new rule.

Response to: CTR-109-004

See response to CTR-002-010b.

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Comment ID: CTR-110-003  
Comment Author: Judith A. Brown  
Document Type: Citizen  
State of Origin: CA  
Represented Org:  
Document Date: 12/02/97  
Subject Matter Code: G-02 Compliance Schedules  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Also, anti-pollutant compliance schedules need to be immediate and continuing, not ten years from now.

Response to: CTR-110-003

See response to CTR-002-010b.

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Comment ID: CTRH-001-011  
Comment Author: Greg Karras  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Comm. for Better Environ.  
Document Date: 09/17/97  
Subject Matter Code: G-02 Compliance Schedules  
References:  
Attachments? N

## CROSS REFERENCES

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Comment: Next, compliance schedule.

EPA appears to be saying that it is only allowing state authorities to decide whether to put compliance schedules in permits which grant permission to pollute over the established criteria for up to 10 years.

However, we know that when the Unocal refinery here sued and paid the state authorities for permission to dump excess selenium for five years, EPA joined CBE, the City of San Francisco, the City of Richmond and others in court to support the public's right to protect our bay and protect our health.

Our question here is, has EPA waffled in its commitment to support our rights to be involved in a meaningful way in enforcement of water quality standards to protect our health?

Response to: CTRH-001-011

See response to CTR-002-010b.

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Comment ID: CTRH-001-024a

Comment Author: Michelle Pla

Document Type: Public Hearing

State of Origin: CA

Represented Org: S.F. Public Utilities Com

Document Date: 09/17/97

Subject Matter Code: G-02 Compliance Schedules

References:

Attachments? N

CROSS REFERENCES g-05

c-22

c-24a

c-17a

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Comment: MS. PLA: My name is Michelle Pla. I'm with the Public Utilities Commission, City and County of San Francisco.

I made the comment on my card that I also said that I would try to be constructive, and so I'm going to follow my mentor here, Phil Bobel, and say that there are some things in this rule that we're very pleased to see.

We're very pleased to see use of the latest scientific information, particularly the use of latest IRIS, I-R-I-S, numbers-for human health. We're very pleased that you're using dissolved versus total recoverable form for the metals.

We're very pleased to see recognition of the water effects ratios. We're pleased to see recognition for a multi-tiered mixing zone for acute and chronic human health effects and hope that the state pays particular attention to that.

We do have a problem with the way you've described compliance schedules and hope to be working strictly by the state on that as well. We think that the five-year system is fairly shortsighted, and -we can't even do FMDSLs in five years.

Response to: CTRH-001-024a

See response to CTR-027-008b.

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Comment ID: CTRH-001-039c  
Comment Author: Robert Reid  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: CASA  
Document Date: 09/17/97  
Subject Matter Code: G-02 Compliance Schedules  
References:  
Attachments? N  
CROSS REFERENCES C-24a  
G-04

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Comment: I've been saving the good news for last.

Fourth, and by no means last in priority for CASA, we wish to register our support for several parts of the preamble to the CTR.

We support application of interim limits in NPDES permits while TMDLs and other special studies are being performed.

We also support EPA's approach to water effects ratios for determining site-specific criteria.

We also support the inclusion of a provision allowing the compliance schedules in permits in the rule, although we recommend that it be modified to allow the regional boards to include compliance schedules of up to 15 years in permits, if they deem it appropriate.

Thank you for the opportunity to present our views. As I said earlier, we will be submitting detailed comments on the proposed rule by the end of the comment period, which hopefully will be extended in response to our and others' requests.

Response to: CTRH-001-039c

See response to CTR-027-008b.

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Comment ID: CTRH-001-052  
Comment Author: Michael Lozeau  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: S.F. Bay/Delta Keeper

Document Date: 09/17/97  
Subject Matter Code: G-02 Compliance Schedules  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: The compliance schedules, I would definitely question the need. There was a question reflected earlier, whether we need compliance schedules authorized by this federal rule.

It seems to me that EPA is trying to fix an absence of criteria. We have been waiting a long time for these criteria. They were supposed to be in place in -- it was '93, I think. The deadline, technically speaking, is about four years behind, and will probably be five by the time it's done.

To have another ten years before we actually see any results is a little frustrating, so I for one don't think compliance schedules, whether the agencies, for better or worse -- and with some help from the dischargers, they have not been able to issue the criteria required by federal law. And I guess the uncertainty of that delay should go to the benefit of the bay and all the waters of the state. So on compliance schedules, I think at this point they are a little bit too late, especially in the standards.

That's not to say in particular instances that the individual boards can't figure out ways of using enforcement authority to devise rational schedules where people for whatever reason have not been able to adjust the facilities to meet new standards.

But in the standards themselves, I think history shows that is not something that's going to cripple the various industries and dischargers, that it can be adjusted through enforcement processes.

Response to: CTRH-001-052

See response to CTR-002-010b.

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Comment ID: CTRH-002-011a  
Comment Author: Lisa Ohlund  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Alliance of So. CA POTWs  
Document Date: 09/18/97  
Subject Matter Code: G-02 Compliance Schedules  
References:  
Attachments? N  
**CROSS REFERENCES G-04**  
C-22  
K-01

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Comment: Now, I'd briefly like to touch on several issues of importance to SCAP members. In addition, we will be submitting written comments before the close of the public comment period.

I'd like to begin by mentioning our support for several provisions included in the draft CTR, and those include the provision authorizing the use of compliance schedules -- although we don't necessarily agree

with the time period -- the expression of metals criteria as dissolved rather than totally recoverable, and discussion in the preamble supporting the use of interim limits in permits, while the total maximum daily loads and other special studies are being performed.

Response to: CTRH-002-011a

See response to CTR-027-008b.

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Comment ID: CTRH-002-014

Comment Author: Lisa Ohlund

Document Type: Public Hearing

State of Origin: CA

Represented Org: Alliance of So. CA POTWs

Document Date: 09/18/97

Subject Matter Code: G-02 Compliance Schedules

References:

Attachments? N

**CROSS REFERENCES**

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Comment: And on compliance schedule time frames, we'd like to see that those are consistent with the State's proposal.

Response to: CTRH-002-014

See response to CTR-015-006.

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Subject Matter Code: G-03 Design/Minimum Flows

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Comment ID: CTR-003-004  
Comment Author: City of Riverside  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: G-03 Design/Minimum Flows  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: 4) The use of the "harmonic mean flow" adds yet another level of conservatism to the standard setting process. As the response to the toxin is assumed linear with respect to concentration and additive over time, the use of this statistic seems inappropriate and overprotective.

Response to: CTR-003-004

EPA disagrees that the use of the harmonic mean flow is inappropriate and overprotective. Carcinogens, unlike non-carcinogens, do not have a threshold concentration where effects are only observed above certain concentrations. Exposure to carcinogens is best estimated by determining lifetime average exposure because carcinogens, as illustrated by the supporting toxicity data in the criteria documents, show a linear relationship of dose versus response. In other words, as exposure increases over time, a greater incidence of effects are observed. This means that exposure is cumulative over time. The human health criteria for carcinogens are based on the assumption of average exposure over a seventy year period (life expectancy assumption). The harmonic mean is the running average of all the flow data on record for a particular stream. EPA believes that averaging the entire flow record best approximates lifetime exposure. Thus, the Agency recommends the harmonic mean flow for determining long term exposure estimates when using steady-state modeling. EPA also notes that the final CTR does allow alternative flows to be used where supported by data and approved by EPA after EPA publishes for public comment a notice proposing such a change (40 CFR 131.38(d)(1)(iv)). Appropriate dynamic modeling is one such alternative that EPA would approve. The final CTR maintains the harmonic mean flow as the design flow for human health criteria for carcinogens. EPA also notes the commentor did not provide an alternative to the harmonic mean flow.

Further discussion on the basis for the harmonic mean flow is contained in the Technical Support Document for Water Quality-based Toxics Control (section 4.6 and Appendix D) and in "Design Stream Flows Based on Harmonic Means," Lewis A. Rossman, Jr. of Hydraulic Engineering, Vol. 116, No. 7, July 1990.

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Comment ID: CTR-020-016  
Comment Author: City of Stockton  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: G-03 Design/Minimum Flows

References:

Attachments? Y

## CROSS REFERENCES

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### Comment: II. Use of New Scientific Information

The City acknowledges and supports EPA's update of several water quality criteria including those for mercury, cadmium and arsenic. While a number of criteria were updated to reflect current scientific information, there are a few notable exceptions.

The following briefly addresses the key updates and omissions that should be addressed in the final publication of this rule.

#### 5. Application of Criteria at Return Flows

The rule specifies that the criteria should be applied under various design flows that properly represent the acceptable exposures that may occur in the environment. Consistent with the National Guidelines, EPA recognized that it is inappropriate and unnecessary to apply the criteria in a "never to exceed" manner. Clearly, the information underlying the selection of the return frequency of once in three years, which was conservatively derived, demonstrates that periodic exceedance of the criteria is acceptable. However, in the rule, EPA states that these flows should only be used if the Regional Board has expressly determined that water quality criteria apply only above certain flows. Absent such a statement from the Regional Board, the criteria apply at all flows and no exceedance, no matter how minor, would be allowed. This provision (which will clearly lead to overly stringent application of criteria) is arbitrary and capricious.

If EPA is to adopt criteria and implementation procedures in place of state action, that regulatory package must be complete and appropriate considering the regulation as a whole. EPA is well aware that few Regional Boards have established specific return flows because the issue is addressed on a case-by-case basis. Moreover, as no specific flow is set to apply to wet weather events, the CTR would lead to the absurd conclusion that storm waters, prior to mixing with any surface waters, must comply with stringent water quality criteria.

EPA may not knowingly establish procedures that will lead to unnecessarily restrictive application of the criteria unrelated to actual use protection needs. The final rule should specify the criteria will only be applied to flows exceeding the design stream flows specified in the rule.

Response to: CTR-020-016

EPA disagrees that the low flow provisions in this rule are arbitrary and capricious. EPA notes that under the Water Quality Standards Regulation (see 40 CFR 131.13), States may adopt discretionary policies that affect the implementation of their water quality standards. Such policies may include the establishment of low flow provisions and are subject to EPA review and approval. However, where a State has not specified low flow provisions and has determined that the application of the criteria at all flows is appropriate State policy, EPA will defer to the State's expressed policy. This approach is consistent with Section 510 of the Clean Water Act which preserves State authority to adopt provisions for its waters that are more stringent than required by EPA.

Furthermore, EPA disagrees with the commenter's assertion that if a State's criteria apply at all flows, the

criteria could never be exceeded. EPA's aquatic life criteria are based on three interrelated components which include magnitude, duration, and frequency. EPA's longstanding position is that the criteria may not be exceeded more than once every three years on the average. This recurrence frequency takes into consideration the rates of ecological recovery from severe environmental stresses. Further discussions on this issue is contained in EPA's Technical Support Document for Water Quality-based Toxics Control (Chapter 2 and Appendix D).

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Comment ID: CTR-027-005a

Comment Author: California SWQTF

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-03 Design/Minimum Flows

References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040

Attachments? N

CROSS REFERENCES T

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Comment: 5. The proposed rule restricts the State's regulatory flexibility in permitting by establishing averaging periods and low flow conditions, and directives regarding establishing effluent limits for criteria not being adopted as part of the CTR. USEPA has preempted the State's flexibility by establishing averaging periods for applying acute and chronic aquatic life and human health criteria, and by establishing low flow conditions that must be used in developing limits based on proposed criteria. These are implementation issues that should remain with the State regulatory authority.

Recommendation: The rule should be revised to delete all provisions that preempt the State's regulatory flexibility.

Response to: CTR-027-005a

EPA disagrees that the flow provisions contained in the final rule will limit State flexibility.

First, EPA notes that the State of California may develop alternative design flows for its waters provided that those alternative flows are scientifically defensible and protective of the designated uses of State waters. Such alternative flows will be subject to EPA review, approval, and public comment. However where the State has not adopted low flow provisions, the design flows specified in today's rule shall be implemented to ensure that the criteria will be implemented appropriately to provide environmental and human health protection.

As noted in the preamble of today's rule, EPA's Technical Support Document for Water Quality-based Toxics Control (the TSD) also recommends the use of dynamic models to perform wasteload allocations. EPA is clarifying that today's rule provides the State of California with the flexibility to utilize dynamic models to implement the federal criteria. The dynamic modeling techniques, as outlined in the TSD, will allow enable the determination of wasteload allocations that will meet the criteria in today's rule.

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Comment ID: CTR-035-029

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-03 Design/Minimum Flows  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: pp. 42182-42183 -- Low Flow Values for Streams and Rivers We recommend that EPA not adopt the design flow values (e.g. 1Q10 or 1B3 for aquatic life acute criteria) for the CTR criteria. The values specified are not always appropriate. For instance, EPA proposes that the harmonic mean flow be applied with human health criteria for carcinogens. In contrast, EPA's Technical Support Document (U.S. EPA, 1991) states:

"However, for situations involving seasonally variable effluent discharge rates, hold-and-release treatment systems, and effluent-dominated sites, the harmonic mean may not be appropriate. In these cases, the effluent load and downstream flow are not independent (i.e., they are correlated). Modeling techniques can calculate an average daily concentration over a long period of time are more appropriate to determine the long-term exposure in these cases." Therefore, we recommend that EPA include these values in the Preamble as guidance instead of in the rule itself.

Response to: CTR-035-029

EPA agrees that the low flow values specified in the rule may not be appropriate in all instances as noted in the Agency's Technical Support Document for Water Quality-based Toxics Control (the TSD). Furthermore, EPA noted in the proposed rule (see section 131.38(c)(2)(ii)) that the low flows would apply in waters suitable for the establishment of low flow return frequencies such as free flowing streams and rivers. However, in general, EPA supports these flows as being appropriate in a majority of situations. Additionally, as noted in the preamble of today's rule, EPA is clarifying that today's rule provides the State of California with the flexibility to utilize dynamic modeling (as an alternative to steady state modeling) in implementing the criteria contained in today's rule. Therefore, EPA will retain the design flows as proposed, as these flows will ensure adequate implementation of the criteria included in today's rule in cases where the State does not have design flows in place or where the State does not utilize dynamic modeling.

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Comment ID: CTR-036-007b  
Comment Author: County of Orange  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-03 Design/Minimum Flows  
References: Letter CTR-036 incorporates by reference letters CTR-013, CTR-018, CTR-031, CTR-034 and CTR-040  
Attachments? N  
**CROSS REFERENCES C-26**

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Comment: We are concerned that EPA has preempted the State's flexibility by establishing averaging periods for applying acute and chronic aquatic life criteria and for establishing low flow conditions that must be used in developing limits based on the proposed criteria. We recommend that such implementation issues remain within State authority.

Response to: CTR-036-007b

See response to CTR-027-005a.

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Comment ID: CTR-037-005

Comment Author: Hampton Roads Sanitation Dist.

Document Type: Sewer Authority

State of Origin: VA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-03 Design/Minimum Flows

References:

Attachments? N

CROSS REFERENCES

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Comment: 5. EPA is requiring, by rule, that 1Q10 and 7Q10 receiving water flows be developed to implement acute and chronic water quality standards. This will therefore eliminate any flexibility that the State wishes to use when calculating reasonable potential to exceed standards and water quality-based limits. This will also limit permittees as to the approaches that can be used when modeling mixing zones. The use of 1Q10 and 7Q10 values is arbitrary and is not related in any way to how water quality criteria are developed or protection of the environment. These statistics were adopted merely because they were already in use by other programs and were therefore easily obtained. Use of these statistics does not recognize unique qualities of California's or any other states's waters, and therefore does not preclude overly stringent regulation. EPA must justify with data why these particular flows are required to implement water quality standards and why designated uses will not be protected if these flows are not used in NPDES permitting.

Response to: CTR-037-005

See response to CTR-027-005a. EPA disagrees that the 1Q10 and 7Q10 values are arbitrary. The hydrological basis for these flows were taken directly from EPA's Technical Support Document for Water Quality-based Toxics Control (See TSD, Appendix D for further information).

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Comment ID: CTR-040-018b

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-03 Design/Minimum Flows

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES C-26; C-30; C-24e

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Comment: V. Recommendation: Delete all provisions in the Rule that preempt the States flexibility in permitting. The Rule provides specific direction on the adoption of averaging periods, low flow values, effluent limitations for criteria not being adopted as a part of the Rule, and that the aquatic life criteria be applied to all waters irrespective of designated use, etc..

\* The Preamble and the Rule's economic analysis make a point that the State has considerable flexibility in establishing permit limitations. In making, that point, EPA implies that the State may implement the criteria in a manner that would have little or no adverse economic impact on dischargers.

\* However, the Rule contains a number of implementation provisions that are not required under Section 303(c)(2)(B), but serve to preempt the State's flexibility. These provisions include, but are not necessarily limited to the adoption of averaging periods and low flow values, directives regarding the establishment of effluent limitations for criteria that are not being adopted as a part of the Rule, and application of the aquatic life criteria to all waters irrespective of the designated use.

\* Not only does EPA not have a duty to adopt these provisions, but also the provisions are more restrictive than those required by the CWA or EPA regulations, They clearly restrict the State's flexibility. In fact, other states have adopted, and EPA has approved, implementation provisions (e.g., averaging periods and low flow values) which are less restrictive.

\* For these reasons, EPA should remove all such implementation provisions from the Rule.

Response to: CTR-040-018b

See response to CTR-027-005a.

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Comment ID: CTRH-001-034c  
Comment Author: Dave Brent  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: CA Water Qual. Task Force  
Document Date: 09/17/97  
Subject Matter Code: G-03 Design/Minimum Flows  
References:  
Attachments? N  
CROSS REFERENCES I-08; I-05

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Comment: Thirdly, I'd like to touch upon implementation of the rule. My understanding is that the state's Inland Surface Waters and Enclosed Bays and Estuaries Plan will address implementation of the CTR. With this in mind, the CTR should serve as an enabling rule and allow the state and the dischargers flexibility in the implementation of objectives contained in the rule.

As I touched upon earlier in my opening remarks, EPA has included some enabling provisions in this rule that we support, such as use and determination of mixing zones and water effects ratios. From the stormwater perspective, we believe other important enabling provisions must be included to allow for regional flexibility in the implementation of our stormwater programs.

For example, enabling provisions should be included to allow flexibility in establishing compliance schedules for stormwater discharges and should allow flexibility for site-specific establishment of low-flow conditions and wet weather standards, and ranges of human health criteria depending on the use of individual receiving waters.

Response to: CTRH-001-034c

See response to CTR-027-005a.

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Subject Matter Code: G-04 Interim Limits

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Comment ID: CTR-003-005  
Comment Author: City of Riverside  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: G-04 Interim Limits

References:

Attachments? N

CROSS REFERENCES

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Comment: 5) The concept of interim permit limits is a worthy one which we hope you retain.

Response to: CTR-003-005

EPA appreciates these comments providing support for EPA's discussion of interim limits in the preamble of the proposed CTR. EPA addressed some implementation issues in the preamble to the proposed rule to illustrate the discretion available to the State in its issuance of permits and effluent limits, however, this implementation issue is outside the scope of the rule. EPA supports the State's consideration of stakeholder Task Force recommendations in developing the State's policy (Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California) regarding interim limits. However, EPA is not recommending any specific method of calculating interim limits because EPA does not intend to limit the State's discretion in implementing the Clean Water Act.

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Comment ID: CTR-005-003f  
Comment Author: Novato Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/23/97  
Subject Matter Code: G-04 Interim Limits

References:

Attachments? Y

CROSS REFERENCES C-22

C-24a

C-01a

G-09

G-05

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Comment: 2. The following provisions of the rule are supported: (1) adoption of metals criteria as dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury; and (4) the Preamble discussions regarding metals translators, mixing zones, and interim permit limits.

Response to: CTR-005-003f

See response to CTR-003-005.

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Comment ID: CTR-021-002a

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: G-04 Interim Limits

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES C-24a

C-22

K-01

G-05

G-02

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Comment: Sunnyvale is very supportive of many fine concepts advanced in the proposed CTR, and we join with CASA/Tri-TAC in complimenting the Agency on its proposed positions with regard to such matters as: (a) the use of interim effluent limitations in NPDES permits during the pendency of TMDL and other special studies; (b) the allowance of water effects ratios in adjusting the criteria for metals without the necessity for additional rulemaking to establish site-specific objectives; © the use of the dissolved state for the metals criteria; (d) the use of cooperative, intergovernmental, and stakeholder-involved approaches towards the development of TMDLs;(e) the allowance of dilution for both chronic and acute pollutants; and (f) the allowance of compliance schedules in NPDES permits.

Response to: CTR-021-002a

See response to CTR-003-005.

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Comment ID: CTR-030-001

Comment Author: Utility Water Act Group

Document Type: Trade Org./Assoc.

State of Origin: DC

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-04 Interim Limits

References:

Attachments? Y

CROSS REFERENCES

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Comment: Comments of the Utility Water Act Group on the Proposed California Water Quality Standards

The Utility Water Act Group (UWAG)(\*1) submits these comments on EPA's proposed Water Quality Standards for the State of California, published in the Federal Register on August 5, 1997. (62 Fed. Reg. 42,160) (the California proposal). UWAG is interested in the proposed regulation because: (1) UWAG member companies in California will be directly affected by the proposed changes to the California water quality standards; and (2) many of the issues raised in the proposal have national implications, particularly as they relate to general implementation of the NPDES program.

As detailed in Section I below, UWAG finds many parts of the proposal reasonable and sensible, and endorses EPA's intentions as to those parts. However, as explained in Section 11, the proposal sets forth some propositions that are erroneous or technically deficient, and others that may lead to inappropriate implications or misinterpretations.

## I. ISSUES UWAG SUPPORTS

### A. UWAG Approves of Interim Permit Limits When a TMDL Study is Incomplete

UWAG agrees with EPA that interim permit limits - where WQBELS have otherwise been justified - are appropriate for pollutants that are the subject of an ongoing TMDL/WLA/LA or other special study. 62 Fed. Reg. at 42,185, col. 2. UWAG also agrees that past performance and future uncertainty are appropriate factors - although not the only possibly relevant factors to consider in determining interim permit limits. UWAG wishes to emphasize, however, that permit writers must not be encouraged to impose any WQBELS, including interim WQBELS, until they have obtained sufficient and reliable data with which to conclude that the discharge has a reasonable potential of causing an excursion of water quality standards. In short, EPA should emphasize in the final rule that interim limitations are not intended to supersede the obligation of a permit writer to perform a reasonable potential determination as a prerequisite to imposing a WQBEL.

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(\*1) UWAG is an association of 73 individual electric utilities and three national trade associations of electric utilities, the Edison Electric Institute, the National Rural Electric Cooperative Association, and the American Public Power Association. The individual utility companies operate power plants and other facilities that generate, transmit, and distribute electricity to residential, commercial, industrial, and institutional customers. The Edison Electric Institute is the association of the nation's investor-owned electric utilities. The National Rural Electric Cooperative Association is the association of nonprofit electric cooperatives supplying central station service through generation, transmission and distribution of electricity to rural areas of the United States. The American Public Power Association is the national trade association that represents publicly owned electric utilities in the United States. UWAG's purpose is to participate on behalf of its members in EPA's rulemakings under the CWA and in litigation arising from those rulemakings.

Response to: CTR-030-001

EPA agrees that the permit writer must have a reasonable basis to conclude whether the discharger has "reasonable potential" for causing or contributing to an excursion of an objective prior to setting water quality-based effluent limits. EPA addressed some implementation issues in the preamble to the proposed rule to illustrate the discretion available to the State in its issuance of permits and effluent limits, however, this implementation issue is outside the scope of the rule.

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Comment ID: CTR-030-004b  
Comment Author: Utility Water Act Group  
Document Type: Trade Org./Assoc.  
State of Origin: DC  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-04 Interim Limits  
References:  
Attachments? Y  
CROSS REFERENCES G-02  
I

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Comment: D. EPA's Endorsement of Five-Year Compliance Schedules and Interim Permit Limits for Modifications is Appropriate

UWAG strongly supports EPA's recognition that modifications necessary to comply with new or more stringent effluent limitations may necessitate the use of five-year compliance schedules. 62 Fed. Reg. at 42,187, col. 3. UWAG believes, however, that in certain circumstances a longer compliance schedule may be appropriate. Steam electric facilities that need retrofits to meet water quality-based effluent limits (WQBELS) often require extensive engineering design and testing prior to the actual retrofit. Additionally, nuclear facilities must ensure that any design changes are compatible with Nuclear Regulatory Commission regulations. Therefore, the availability of five-year compliance schedules is certainly well-justified. Further, EPA should consider whether longer compliance schedules should be available, at least in some limited circumstances.

Additionally, UWAG strongly supports EPA's approval of interim permit limits for use in permit modifications. This flexibility will allow dischargers to stay in compliance while necessary process or design changes are carried out.

Response to: CTR-030-004b

See response to CTR-003-005.

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Comment ID: CTR-032-002g  
Comment Author: Las Gallinas Val. Sanitary Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-04 Interim Limits  
References: Letter CTR-032 incorporates by reference letter CTR-035  
Attachments? N  
CROSS REFERENCES G-01  
C-22  
G-09  
C-24a  
C-24  
K

G-05  
G-02

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Comment: Regulatory Flexibility and Relief

The District supports EPA's use of "sound science" and current data in developing the proposed criteria in the California Toxics Rule (CTR). The District strongly supports language in the Preamble that references and endorses recommendations of the State Task Forces including use in permitting of:

\* reasonable potential analyses \* dissolved metals criteria \* translators \* water effects ratios \* site specific objectives \* innovative TMDL processes such as effluent trading \* performance based interim limits \* chronic and acute mixing zones, and \* compliance schedules in NPDES permits.

Response to: CTR-032-002g

See response to CTR-003-005.

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Comment ID: CTR-034-012a

Comment Author: SCAP

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-04 Interim Limits

References: Letter CTR-034 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES K-01

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Comment: \* SCAP supports EPA's discussion in the Preamble regarding the use of interim permit limits while Total Maximum Daily Loads.(TMDLs) and other special studies are being performed. We strongly urge EPA to support the use of the SWRCB Permitting Task Force's recommended approach for deriving interim permit limits.

Response to: CTR-034-012a

See response to CTR-003-005.

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Comment ID: CTR-035-002e

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-04 Interim Limits

References:

Attachments? N

## CROSS REFERENCES C-22

C-01a

C-08a

G-05

G-09

K-01

C-24a

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Comment: Second, we commend EPA for its inclusion in the CTR of several innovative and flexible regulatory approaches, such as metals criteria expressed as dissolved rather than total recoverable concentrations, and the revised human health criterion for mercury. In addition, in light of the issues surrounding the human health criteria for arsenic we support EPA's decision not to promulgate human health criteria at this time. With respect to implementation issues discussed in the Preamble, we support EPA's policies and guidance regarding the application of mixing zones and dilution credits, the use of interim permit limits while Total Maximum Daily Loads (TMDLs) and other special studies are being performed, and EPA's guidance to Regional Water Quality Control Boards (RWQCBs) that they may use any of the methods described in EPA's guidance document on the use of translators. We also support EPA's proposal to create a rebuttable presumption for Water Effects Ratios (WERs), allowing the RWQCBs and SWRCB to develop site-specific WERs that can be approved by EPA during the NPDES permit approval process. We believe that this approach will help facilitate the development of appropriate site-specific adjustments for metals criteria.

Response to: CTR-035-002e

See response to CTR-003-005.

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Comment ID: CTR-035-033

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-04 Interim Limits

References:

Attachments? N

CROSS REFERENCES

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Comment: p. 42185 -- Interim Limits We support the inclusion of the provision in the Preamble which supports the use of interim limits in NPDES permits while TMDLs and other special studies are being performed. We endorse the recommendation of the Permitting and Compliance Issues Task Force that interim effluent limits be calculated based on past performance plus future uncertainty (SWRCB 1995, Part VI). While recognizing that the State has discretion in determining how effluent limits are calculated, we recommend that EPA strengthen its statement of support for this approach by recommending its use to State permitting authorities.

Response to: CTR-035-033

See response to CTR-003-005.

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Comment ID: CTR-038-002d  
Comment Author: Sonoma County Water Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-04 Interim Limits  
References:  
Attachments? Y  
CROSS REFERENCES C-22  
C-24a  
C-01a  
G-05  
G-09

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Comment: 2. The following provisions of the rule are supported (1) adoption of metals criteria as dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury; and (4) the Preamble discussions regarding metals translators, mixing zones, and interim permit limits.

Response to: CTR-038-002d

See response to CTR-003-005.

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Comment ID: CTR-039-008  
Comment Author: San Francisco BayKeeper  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-04 Interim Limits  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: VI. EPA'S SUGGESTION THAT "INTERIM PERMIT LIMITS" MAY BE ACCEPTABLE IS WITHOUT AUTHORITY IN THE LAW

EPA refers to a suggestion of the State's Permitting Task Force that performance-based interim permit limits may be appropriate where a TMDL/WLA/LA is underway but not yet completed. 62 Fed. Reg. at 42185. This innovative concept has one fatal flaw --- there is no authority for such limits in the Clean Water Act. Indeed, the notion of an interim limit is inconsistent with other important features of the Act.

First, by definition, an effluent limitation must be designed to meet all applicable water quality standards. Interim limits, by definition, would not be designed to assure compliance with standards. Where a

TMDL is underway and presumably pertinent to a Proposed "interim" limit, the waterbody by definition is not meeting an applicable standard. An interim limit, by definition, is deferring the limit which would be required of the particular discharger to meet that standard.

Second, interim limits are a veiled attempt to sidestep the regulatory restrictions placed on compliance schedules. Where authorized, compliance schedules are limited to 5 years and must include interim steps if they are longer than one year. "Interim" limits is simply a way of creating a compliance schedule without the appropriate label. As a result, the proposal appears to contemplate potentially open-ended schedules with none of the limited safeguards provided by compliance schedules. In other words, an interim limit is nothing but an illegal compliance schedule. When included in conjunction with a compliance schedule, as set forth in another section of the proposed rule, BayKeeper is not concerned with the notion of an interim effluent limit (albeit, as noted above, neither is appropriate for inclusion in this proposed rule). 62 Fed. reg. 42208.

Third, the need for interim limits in order to wait for unfinished TMDLs is an extremely flimsy policy reason for creating a new genre of permit limits. Section 303(d), 33 U.S.C. section 1313(d) has required TMDLS for well over a decade. States, including California, as well as EPA simply have refused to comply with that legal obligation. Simply because the agencies have chosen to ignore Congress' mandate is not a valid reason for EPA or the State of California to undermine other sections of the Act, such as the process for establishing effluent limits and compliance schedules.

The reference to interim limits while waiting for TMDLs included in the preamble should be stricken. Should the State choose to authorize compliance schedules, that should be the only process by which a discharger can defer compliance with a water quality-based effluent limit. There is no reason that a schedule of a couple of years but not greater than 5 years would not be ample time to complete a required TMDL process.

Response to: CTR-039-008

EPA disagrees that there is no authority for interim limits in the Clean Water Act.

See response to CTR-002-010b (Category G-02; Compliance Schedules).

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Comment ID: CTR-041-006a  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-04 Interim Limits  
References:  
Attachments? N  
CROSS REFERENCES G-05

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Comment: Fifth, the District supports the preamble discussion on both interim permit limits and mixing zones as valid implementation procedures. In addition, however, the District specifically endorses the State's Permitting Task Force recommendations on these two subjects: (1) that interim effluent limits be

calculated based on past performance plus future uncertainty, and (2) that the State Water Resources Control Board (SWRCB) should allow the establishment of both acute and chronic mixing zones.

Response to: CTR-041-006a

See response to CTR-003-005.

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Comment ID: CTR-043-002d  
Comment Author: City of Vacaville  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-04 Interim Limits  
References:  
Attachments? Y  
CROSS REFERENCES C-22  
C-24a  
G-01a  
G-05  
G-09

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Comment: 2. The following provisions of the rule are supported: (1) adoption of metals criteria as dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury; and (4) the Preamble discussions regarding metals, translators, mixing zones and interim permit limits.

Response to: CTR-043-002d

See response to CTR-003-005.

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Comment ID: CTR-044-003f  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-04 Interim Limits  
References:  
Attachments? Y  
CROSS REFERENCES C-22  
C-24a  
C-01a  
G-09  
G-05

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Comment: We have reviewed the proposed CTR and offer the following comments:

2. The following provisions of the rule are supported:

- (1) adoption of metals criteria as dissolved concentrations;
- (2) expression of the metals criteria as a function of the water-effect ratio;
- (3) adoption of the proposed new human health criteria for mercury; and
- (4) the Preamble discussions regarding metals translators, mixing zones, and interim permit limits.

Were the old human health criterion for mercury (0.012 ug/ l) to be adopted, the City would have to remove its discharge from Tule Canal and go to land disposal. The capital cost to do this would be \$22.1 million and the total present worth cost would be \$23.1 million (see Exhibit B, Required Capital improvements and Costs for Beryllium and Mercury). This would translate to an annual cost of \$3.1 million per year (at 7% over 10 years) and would require that monthly sewer service charges be increased by more than 100%.

Response to: CTR-044-003f

See response to CTR-003-005.

With respect to the comment about the economic impact of the old criterion for mercury 0.012 ug/l, EPA has not evaluated these costs since the CTR does not promulgate a mercury criteria of 0.012 ug/l.

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Comment ID: CTR-045-002  
Comment Author: Sausalito-Marin Sanitary Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: G-04 Interim Limits  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: The District supports many of the items included in the proposed CTR:

The application of interim limits in NPDES permits while Total Daily Maximum Loads (TMDLS) and other special studies are being performed.

Response to: CTR-045-002

See response to CTR-003-005.

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Comment ID: CTR-052-002e

Comment Author: East Bay Dischargers Authority  
Document Type: Sewer Authority  
State of Origin: SC  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-04 Interim Limits  
References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054  
Attachments? Y  
CROSS REFERENCES C-22  
C-01a  
G-09  
G-05

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Comment: EPA will recall the State Water Quality Plans Task Forces that included all stakeholders, including EPA. The Authority appreciates the incorporation of many of the consensus recommendations from the Task Forces into the CTR, including:

- \* Adoption of the metals criteria as dissolved concentrations and the expression of the criteria as a function of the water-effect ratio
- \* Adoption of the proposed new human health criterion for mercury
- \* Preamble discussions regarding metals translators, mixing zones, and interim permit limits

Response to: CTR-052-002e

See response to CTR-003-005.

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Comment ID: CTR-054-004c  
Comment Author: Bay Area Dischargers Assoc.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-04 Interim Limits  
References:  
Attachments? Y  
CROSS REFERENCES G-09  
G-05

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Comment: BADA supports the Preamble discussions regarding metals translators, mixing zones, and interim permit limits. Translators and mixing zones will provide a better scientific basis for the application of the criteria and will go a long way toward protecting against the imposition of unnecessary or unreasonable controls. Interim permit limits will allow dischargers faced with potential attainability problems to pursue reasonable actions, such as pollution prevention, treatment plant optimization, pollutant trading, TMDLS, etc. prior to being faced with final effluent limitations. BADA endorses the recommendation of the State Plan Public Task Forces on the issue of interim limits.

Response to: CTR-054-004c

See response to CTR-003-005.

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Comment ID: CTR-056-002

Comment Author: East Bay Municipal Util. Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: G-04 Interim Limits

References: Letter CTR-056 incorporates by reference letter CTR-054

Attachments? N

**CROSS REFERENCES**

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Comment: Second, EBMUD would like to express to EPA its support for inclusion of:

\* The application of interim limits in NPDES permits while establishing TMDLs or conducting other special studies,

Response to: CTR-056-002

See response to CTR-003-005.

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Comment ID: CTR-059-012

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: G-04 Interim Limits

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

**CROSS REFERENCES**

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Comment: Interim Permit Limits

The Sanitation Districts applaud EPA on the inclusion of the provision in the Preamble which supports the use of interim limits in NPDES permits while TMDLs and other special studies are being performed. We endorse the recommendation of the SWRCB Permitting and Compliance Issues Task Force that interim effluent limits be calculated based on past performance plus future uncertainty.

Response to: CTR-059-012

See response to CTR-003-005.

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Comment ID: CTR-060-001  
Comment Author: San Diego Gas and Electric  
Document Type: Electric Utility  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-04 Interim Limits  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: PROVISIONS SDG&E SUPPORTS

EPA has included in the proposed CTR provisions which are reasonable and with which SDG&E supports. These include:

Interim limits

The preamble discusses the use of interim numeric limits during the time which TMDL/WLA/LA or other special studies are underway but not completed (see 62 Fed. Reg. at 42185, Col. 2). SDG&E agrees that interim limits are appropriate and supports their use. Also, interim limits should be set such that existing discharges can maintain compliance during the interim period.

Response to: CTR-060-001

See response to CTR-003-005.

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Comment ID: CTR-066-002  
Comment Author: Delta Diablo Sanitation Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-04 Interim Limits  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Our preliminary review of the CTR finds several areas that we believe are positive changes and will enhance the rulemaking. The areas that we support as now written are as follows:

\* The application of interim limits in NPDES permits while TMDLs and the other special studies that are scientifically supported are being performed.

Response to: CTR-066-002

See response to CTR-003-005.

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Comment ID: CTR-081-002a  
Comment Author: West County Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-04 Interim Limits  
References:  
Attachments? N  
CROSS REFERENCES C-24a  
G-02  
C-22  
G-09  
C-01a  
C-08a  
G-05

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Comment: \* There are many aspects of the CTR that we support. These include: a) Application of interim limits while special studies are performed. b) Approach to water effect ratios for determining site specific criteria. c) Inclusion of provision for compliance schedules. However, this should be modified to allow inclusion of compliance schedules of up to 15 years in permits if deemed appropriate by Regional Boards. d) Metals criteria expressed as dissolved rather than total recoverable concentrations. e) EPA's guidance to Regional Boards regarding use of translators. f) EPA's proposal to create a rebuttal presumption for Water Effects Ratios, g) Revised human health criteria for mercury h) Decision to not promulgate human health criteria at this time in light of issues surrounding health criteria for arsenic. I) EPA's policies regarding application of mixing zones and dilution credits.

Response to: CTR-081-002a

See response to CTR-003-005.

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Comment ID: CTR-085-003  
Comment Author: Camarillo Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: G-04 Interim Limits  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: On several aspects of the California Toxics Rule, the District is in agreement with CASA and SCAP comments:

\* The application of interim limits in NPDES permits while Total Maximum Daily Loads (TMDL) and other special studies are being performed.

Response to: CTR-085-003

See response to CTR-003-005.

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Comment ID: CTR-085-012  
Comment Author: Camarillo Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: G-04 Interim Limits  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: On several aspects of the California Toxics Rule, the District is in agreement with CASA and SCAP comments:

\* The use of interim permit limits with Total Maximum Daily Loads and other special studies are being performed.

Response to: CTR-085-012

See response to CTR-003-005.

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Comment ID: CTR-086-004g  
Comment Author: EOA, Inc.  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org: California Dent  
Document Date: 09/26/97  
Subject Matter Code: G-04 Interim Limits  
References: Letter CTR-086 incorporates by reference letter CTR-035  
Attachments? N  
**CROSS REFERENCES G-01**  
C-22  
G-09  
C-24a  
C-24  
K-03  
G-05  
G-02

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Comment: Regulatory Flexibility and Relief

CDA supports language in the CTR Preamble that references and endorses recommendations of the State Task Forces including in part the use of.

\* reasonable potential analyses \* dissolved metals criteria \* translators \* water effects ratios \* site specific objectives \* innovative TMDL processes such as effluent trading \* performance based interim limits \* chronic and acute mixing zones, and \* compliance schedules in NPDES permits.

Response to: CTR-086-004g

See response to CTR-003-005.

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Comment ID: CTR-090-002f

Comment Author: C&C of SF, Public Util. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-04 Interim Limits

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES C-17a

C-24a

C-22

G-05

G-02

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Comment: There are many features of the proposed rule which we strongly endorse, specifically:

\* the use of the latest IRIS values for human health criteria, it is essential that the criteria be based on the latest scientific and environmental information;

\* recognition that the dissolved fraction of metals, rather than the total recoverable, better reflect the aquatic toxicity of metals;

\* recognition that for certain metals (e.g. copper and zinc) ambient water chemistry is critical in determining toxicity thereby endorsing the Water Effects Ratio;

\* recognition and strong endorsement of the multi-tiered mixing zones for acute, chronic and human health effects; and

\* recognition of interim limits and compliance schedules as appropriate implementation strategies,

Response to: CTR-090-002f

See response to CTR-003-005.

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Comment ID: CTR-092-006  
Comment Author: City of San Jose, California  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-04 Interim Limits  
References: Letter CTR-092 incorporates by reference letter CTR-035  
Attachments? Y  
CROSS REFERENCES

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Comment: Interim Limits

The City supports the concept of interim numeric permit limits when a TMD or other special investigation is underway but not yet completed. The City supports the discussion of factors applicable to the derivation of interim numeric permit limits, specifically past treatment performances, future uncertainty, receiving water body attainment and water quality. The City further encourages flexibility and innovation as illustrated by the concept of effluent "trigger concentrations".

Response to: CTR-092-006

See response to CTR-003-005.

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Comment ID: CTRH-001-039b  
Comment Author: Robert Reid  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: CASA  
Document Date: 09/17/97  
Subject Matter Code: G-04 Interim Limits  
References:  
Attachments? N  
CROSS REFERENCES C-24a  
G-02

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Comment: I've been saving the good news for last.

Fourth, and by no means last in priority for CASA, we wish to register our support for several parts of the preamble to the CTR.

We support application of interim limits in NPDES permits while TMDLs and other special studies are being performed.

We also support EPA's approach to water effects ratios for determining site-specific criteria.

We also support the inclusion of a provision allowing the compliance schedules in permits in the rule,

although we recommend that it be modified to allow the regional boards to include compliance schedules of up to 15 years in permits, if they deem it appropriate.

Thank you for the opportunity to present our views. As I said earlier, we will be submitting detailed comments on the proposed rule by the end of the comment period, which hopefully will be extended in response to our and others' requests.

Response to: CTRH-001-039b

See response to CTR-003-005.

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Comment ID: CTRH-001-057c

Comment Author: Dave Tucker

Document Type: Public Hearing

State of Origin: CA

Represented Org: San Jose Env. Serv. Dept.

Document Date: 09/17/97

Subject Matter Code: G-04 Interim Limits

References:

Attachments? N

CROSS REFERENCES K-03

C-24a

G-07

G-09

C-22

G-05

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Comment: Some of the flexibility that the City highly supports is the water effect ratio investigations to adjust statewide criteria to site-specific conditions; the interim limits concept while special studies are being conducted by the dischargers and other entities; a variance procedure to allow dischargers to achieve progress toward effluent limit attainment without violating applicable water quality standards; dissolved criteria for metals to reflect the toxicological conditions; translators to adjust dissolved criteria to total permit limitations; trading programs to attain and maintain water quality; and a mixing zone that reflects true instream pollutant conditions and that protects beneficial uses.

Response to: CTRH-001-057c

See response to CTR-003-005.

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Comment ID: CTRH-002-011b

Comment Author: Lisa Ohlund

Document Type: Public Hearing

State of Origin: CA

Represented Org: Alliance of So. CA POTWs

Document Date: 09/18/97

Subject Matter Code: G-04 Interim Limits

References:

Attachments? N  
CROSS REFERENCES G-02  
C-22  
K-01

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Comment: Now, I'd briefly like to touch on several issues of importance to SCAP members. In addition, we will be submitting written comments before the close of the public comment period.

I'd like to begin by mentioning our support for several provisions included in the draft CTR, and those include the provision authorizing the use of compliance schedules -- although we don't necessarily agree with the time period -- the expression of metals criteria as dissolved rather than totally recoverable, and discussion in the preamble supporting the use of interim limits in permits, while the total maximum daily loads and other special studies are being performed.

Response to: CTRH-002-011b

See response to CTR-003-005.

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Subject Matter Code: G-05 Mixing Zones&Dilution Credit

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Comment ID: CTR-004-004a  
Comment Author: South Bayside System Authority  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: G-05 Mixing Zones&Dilution Credit  
References:  
Attachments? N  
CROSS REFERENCES C-24a; C-22; C-09

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Comment: Despite the problems addressed above there are provisions of the CTR that SBSA supports, including:

- \* EPA's policies and guidance regarding the use of mixing zones and dilution
- \* Use of water effects ratios (WERS) for determining site specific criteria
- \* Inclusion of metals criteria expressed as dissolved rather than total recoverable
- \* Allowing permit writers the use of any of the methods in EPA's guidance document on the use of translators

Response to: CTR-004-004a

See response to CTR-004-009.

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Comment ID: CTR-004-009  
Comment Author: South Bayside System Authority  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: G-05 Mixing Zones&Dilution Credit  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Alternative Mixing Zones

One of the few avenues that may actually provide some regulatory relief is mixing zones. The Preamble to the CTR describes a mixing zone as a limited area or volume of water where initial dilution of a discharge takes place and where water quality standards can be exceeded. Mixing zones have been applied in the water quality standards program since its inception. The present water quality standards regulations allows states to adopt acute and chronic mixing zones as a matter of state discretion, so long

as the state's mixing zone protects the designated uses. See 40 C.F.R. section 131.13.

The Preamble recognizes that several California Regional Water Quality Control Boards have adopted mixing zone provisions in their respective Basin Plans. These mixing zone provisions can be applied to discharges to water bodies to which water quality standards based on the criteria contained in this proposed rule will apply once this rule becomes final. See CTR Preamble at pg. 42185. The problem arises for the proposal or adoption of new mixing zones where one is not currently authorized under an existing Basin Plan. The Preamble sets out numerous restrictions on the use of mixing zones, as follows:

A mixing zone should be established to ensure that the zone will not impair the integrity of the water body as a whole, the zone will not cause lethality to passing organisms, and, considering- likely pathways of exposure, that there are no significant human health risks. For application of two-number aquatic life criteria, as proposed in this rule, there may be up to two types of mixing zones. In the zone immediately surrounding the outfall, neither the acute nor the chronic criterion is met. The acute criterion is met at the edge of this zone. In the next mixing zone, the acute, but not the chronic, criterion is met, The chronic criterion is met at the edge of the second mixing zone. However, since both aquatic life and human health criteria are proposed in today's rule, the state may establish independent mixing zone policies for each. For any particular pollutant from any particular discharge, the magnitude, frequency, duration and mixing zone associated with each of the type of criteria may determine which one most limits the allowable discharge. Id.

The other potential problem arises because state-adopted mixing- zones are subject to EPA review and approval . See 40 C.F.R. section 131.13. Because EPA approval is required, the question arises whether a federal rulemaking would accompany approval of mixing zones as it does with approval of state variances (which are also authorized under 40 C.F.R. section 131.13). If so, this would greatly restrict the utility of new or alternative mixing zones as an avenue for regulatory relief.

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(\*1) This cost trigger is \$200 per toxic pounds-equivalent for a facility under the low-end scenario, and \$500 per toxic pounds-equivalent for a category of dischargers under the high-end scenario, See EA at pg. 4.

(\*2) In addition, pollutant load I reductions were not calculated or credited for any pollutant for which an alternative regulatory approach was pursued. Id.

Response to: CTR-004-009

Mixing zone and dilution policies and implementation procedures are used by States to establish water quality based discharge limitations that protect the integrity of a waterbody as a whole, but provide permittees a reasonable avenue of relief by allowing ambient concentrations above water quality criteria in small areas near outfalls. EPA is not promulgating a mixing zone and dilution policy for California as part of this rulemaking. This is because EPA maintains that the decision regarding whether to adopt a mixing zones and dilution policy is made at the discretion of the State (see 40 CFR 131.13). While adopting a mixing zone and dilution policy is an area of State discretion, EPA retains authority to review and approve or disapprove policies which affect the application and implementation of water quality standards.

The CTR preamble reiterates existing EPA guidance contained in the Technical Support Document for Water Quality-based Toxics Control (1991) and the Water Quality Standards Handbook (1993) regarding the use of mixing zones and dilution by States. In accordance with this guidance, allowable mixing zone characteristics should be established to ensure that: (1) mixing zones do not impair the integrity of the

water body as a whole; (2) there is no lethality to organisms passing through the mixing zone; and (3) there are no significant health risks, considering likely pathways of exposure. To assist States in establishing appropriate mixing zones and dilution policies and procedures, EPA-Headquarters has periodically issued technical guidance on this topic. National EPA guidance can be found in the Technical Support Document for Water Quality-based Toxics Control (1991), the Water Quality Standards Handbook (1983 and 1993) and Quality Criteria for Water (the "Red Book", 1976). Other sources of information and guidance include Water Quality Criteria 1972 (the "Blue Book", National Academy of Sciences). At minimum, State mixing zone and dilution policies must be consistent with the EPA water quality standards regulation which requires the protection of designated uses. EPA received a majority of comments in support of the mixing zone and dilution discussion in the CTR preamble, which includes a review of the application of mixing zones and dilution in setting allowable discharge limitations based on acute, chronic, and human health criteria using a multi-tiered approach.

As discussed previously, under EPA's water quality standards regulation, States may adopt policies authorizing the use of mixing zones and dilution in setting TMDLs and water quality based effluent limitations (see 40 CFR 131.13). Pursuant to federal regulation, the decision regarding whether to allow mixing zones and dilution is made by individual States (i.e., States may elect to allow or to prohibit mixing zones/dilution for purposes of water quality based permitting). Where a State elects to allow mixing zones and dilution, the State must include an authorizing policy in its water quality standards regulation (e.g., see Water Quality Control Plan for Ocean Waters of California, California Ocean Plan, State Water Resources Control Board, 1997). Where a mixing zone and dilution policy is not sufficiently specific for EPA to adequately evaluate its implementation, the State must also establish procedures to be followed in implementing its mixing zone and dilution policy. Such mixing zone and dilution policies and implementation procedures are subject to EPA review and approval, as new or revised water quality standards (see 40 CFR 131.13). Courts have held that EPA is not required to undertake notice and comment procedures before approving State water quality standards. *City of Albuquerque v. Browner*, 865 F. Supp. 733 (D. N.M. 1993) (The Court noted that EPA is specifically required to provide notice and take comment before issuing federal water quality standards under section 303(b) and held that "[i]f Congress wanted the agency to provide additional notice upon approving state standards, it could have included that language in Section 303(c)(1)," *aff'd*, 97 F.3d 415, 425, n. 15 (10th Cir. 1996), cert. denied, 1997 US LEXIS 6709 (Nov. 10, 1997). State decisions regarding the application of mixing zones and dilution to specific point source discharges are subject to EPA review through the NPDES permitting process.

EPA will continue to support the State's establishment of technically defensible mixing zone and dilution policies and implementation procedures, consistent with EPA's water quality standards regulations and guidance, and their application in setting TMDLs and water quality based effluent limitations for acute, chronic, and human health criteria.

Therefore, since EPA will approve reasonable implementation of mixing zones, EPA believes its Economic Analysis properly included mixing zones as one of several areas of potential regulatory relief for dischargers.

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Comment ID: CTR-005-003e  
Comment Author: Novato Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:

Document Date: 09/23/97  
Subject Matter Code: G-05 Mixing Zones&Dilution Credit  
References:  
Attachments? Y  
CROSS REFERENCES C-22; C-24a; C-01a; G-09; G-04

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Comment: 2. The following provisions of the rule are supported: (1) adoption of metals criteria as dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury; and (4) the Preamble discussions regarding metals translators, mixing zones, and interim permit limits.

Response to: CTR-005-003e

See response to CTR-004-009.

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Comment ID: CTR-015-004  
Comment Author: Eastern Municipal Water Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/23/97  
Subject Matter Code: G-05 Mixing Zones&Dilution Credit  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Mixing Zones (FR p.42185, Preamble section F.3.)

Mixing zones are defined by states. At this time, California does not have mixing zones at any state-level plan (Note: they were in the plans that were rescinded). The Agency mentions that several Regional Boards have mixing zone provisions in Basin Plans. The Agency states that it will recognize those provisions as they are applied to the water quality criteria contained in the Rule. Will the Agency recognize mixing zones should other Regional Boards adopt provisions from this time forward, especially if the State Board does not adopt a state-wide mixing zone definition and associated provisions in a timely manner, or at all?

Response to: CTR-015-004

In the absence of a state-wide policy on mixing zones, EPA will recognize any mixing zone provision that has been adopted by the Regional Board within its basin plan consistent with State law and is approved by EPA as consistent with the Clean Water Act.

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Comment ID: CTR-020-019  
Comment Author: City of Stockton  
Document Type: Local Government  
State of Origin: CA

Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: G-05 Mixing Zones&Dilution Credit  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: III. Mixing Zones

The CTR specifies that mixing zones are allowed on a case-by-case basis if authorized by the applicable Basin Plan and approved by the Regional Board for individual permits. In general, the rule should state that consideration of mixing should also apply to storm waters where dilution is certain to exist.

Response to: CTR-020-019

The State has discretion to allow (or deny) mixing zones in ambient waters that would apply to any NPDES discharger including storm water.

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Comment ID: CTR-021-002e  
Comment Author: LeBoeuf, Lamb, Green & MacRae  
Document Type: Local Government  
State of Origin: CA  
Represented Org: City of Sunnyvale  
Document Date: 09/25/97  
Subject Matter Code: G-05 Mixing Zones&Dilution Credit  
References: Letter CTR-021 incorporates by reference letter CTR-035  
Attachments? Y  
CROSS REFERENCES G-04; C-24a; C-22; K-01; G-02

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Comment: Sunnyvale is very supportive of many fine concepts advanced in the proposed CTR, and we join with CASA/Tri-TAC in complimenting the Agency on its proposed positions with regard to such matters as: (a) the use of interim effluent limitations in NPDES permits during the pendency of TMDL and other special studies; (b) the allowance of water effects ratios in adjusting the criteria for metals without the necessity for additional rulemaking to establish site-specific objectives; (c) the use of the dissolved state for the metals criteria; (d) the use of cooperative, intergovernmental, and stakeholder-involved approaches towards the development of TMDLs;(e) the allowance of dilution for both chronic and acute pollutants; and (f) the allowance of compliance schedules in NPDES permits.

Response to: CTR-021-002e

See response to CTR-004-009.

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Comment ID: CTR-027-012e  
Comment Author: California SWQTF  
Document Type: Storm Water Auth.  
State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-05 Mixing Zones&Dilution Credit

References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040

Attachments? N

CROSS REFERENCES C-22; C-24; C-01a; G-09

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Comment: PROVISIONS OF THE PROPOSED RULE WE SUPPORT

Notwithstanding the above comments, we believe there are certain elements of the proposed rule with respect to establishing water quality standards that we can support:

- \* Metal criteria expressed in the dissolved fraction rather than expressed in the total recoverable fraction.
- \* Metal criteria that are developed as a function of the water-effect-ratio (WER).
- \* The current proposed human health criterion for mercury.
- \* The current preamble language regarding metal translators and mixing zones.

We believe the above provisions provide a more acceptable, scientific approach to the water quality-based pollution control approach. We recommend these provisions of the current rule remain as proposed.

Response to: CTR-027-012e

See response to CTR-004-009.

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Comment ID: CTR-032-002h

Comment Author: Las Gallinas Val. Sanitary Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-05 Mixing Zones&Dilution Credit

References: Letter CTR-032 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES G-01; C-22; G-09; C-24a; C-24; K; G-04; G-02

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Comment: Regulatory Flexibility and Relief

The District supports EPA's use of "sound science" and current data in developing the proposed criteria in the California Toxics Rule (CTR). The District strongly supports language in the Preamble that references and endorses recommendations of the State Task Forces including use in permitting of:

- \* reasonable potential analyses
- \* dissolved metals criteria
- \* translators
- \* water effects ratios
- \* site specific objectives
- \* innovative TMDL processes such as effluent trading
- \* performance based interim

limits \* chronic and acute mixing zones, and \* compliance schedules in NPDES permits.

Response to: CTR-032-002h

See response to CTR-004-009.

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Comment ID: CTR-035-002d

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-05 Mixing Zones&Dilution Credit

References:

Attachments? N

CROSS REFERENCES C-22; C-01a; C-08a; G-04; G-09; K-01; C-24a

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Comment: Second, we commend EPA for its inclusion in the CTR of several innovative and flexible regulatory approaches, such as metals criteria expressed as dissolved rather than total recoverable concentrations, and the revised human health criterion for mercury. In addition, in light of the issues surrounding the human health criteria for arsenic we support EPA's decision not to promulgate human health criteria at this time. With respect to implementation issues discussed in the Preamble, we support EPA's policies and guidance regarding the application of mixing zones and dilution credits. the use of interim permit limits while Total Maximum Daily Loads (TMDLs) and other special studies are being performed, and EPA's guidance to Regional Water Quality Control Boards (RWQCBs) that they may use any of the methods described in EPA's guidance document on the use of translators. We also support EPA's proposal to create a rebuttable presumption for Water Effects Ratios (WERS), allowing the RWQCBs and SWRCB to develop site-specific WERS that can be approved by EPA during the NPDES permit approval process. We believe that this approach will help facilitate the development of appropriate site-specific adjustments for metals criteria.

Response to: CTR-035-002d

See response to CTR-004-009.

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Comment ID: CTR-035-034

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-05 Mixing Zones&Dilution Credit

References:

Attachments? N

CROSS REFERENCES

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Comment: p. 42185 -- Mixing Zones We support the inclusion of the discussion in the Preamble which allows mixing zones for acute and chronic criteria. As EPA notes, the Permitting and Compliance Issues Task Force recommended that the SWRCB allow the establishment of both acute and chronic mixing zones. We recommend that EPA support the establishment of technically defensible mixing zones that protect beneficial uses, consistent with EPA's water quality standards regulation.

Response to: CTR-035-034

See response to CTR-004-009.

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Comment ID: CTR-038-002e  
Comment Author: Sonoma County Water Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-05 Mixing Zones&Dilution Credit  
References:  
Attachments? Y  
CROSS REFERENCES C-22; C-24a; C-01a; G-04; G-09

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Comment: 2. The following provisions of the rule are supported (1) adoption of metals criteria as dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury; and (4) the Preamble discussions regarding metals translators, mixing zones, and interim permit limits.

Response to: CTR-038-002e

See response to CTR-004-009.

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Comment ID: CTR-040-002d  
Comment Author: County of Sacramento Water Div  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-05 Mixing Zones&Dilution Credit  
References: Letter CTR-040 incorporates by reference letter CTR-027  
Attachments? Y  
CROSS REFERENCES C-24a; C-01a; G-09

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Comment: PROVISIONS SUPPORTED

We support a number of provisions of the Rule, including: (1) adoption of metals criteria as dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury- and (4) the Preamble discussions regarding metals

translators and mixing zones. These provisions provide a firmer scientific base for the water quality-based approach to pollution control and are a marked improvement over the old Inland Surface Waters Plan. We would urge EPA to retain these provisions in the final Rule.

Response to: CTR-040-002d

See response to CTR-004-009.

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Comment ID: CTR-040-051

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-05 Mixing Zones&Dilution Credit

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

**CROSS REFERENCES**

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Comment: The Preamble to the California Toxics Rule (CTR), and the rules accompanying Economic Analysis (EA), place a great deal of emphasis on the ability of dischargers to use alternative regulatory approaches to comply with CTR criteria if the cost of treatment technology was prohibitively expensive. For example, the EA assumes that, if the estimated annualized cost for removing a pollutant exceeded a cost trigger,(\*1) "dischargers would explore the use of alternative regulatory approaches to comply with CTR-based effluent limits." EA at pg. 4 (emphasis added). Based on this assumption, no treatment cost was estimated for the facility.(\*2)

The types of alternative regulatory approaches assumed available for dischargers in California include phased total maximum daily loads (TMDLs), water quality standard variances, site-specific criteria, change in designated use, and alternative mixing zones. EA at pg. 4-5. The following sections will discuss each of EPA's proposed methods for regulatory relief and explain whether or not these methods can truly be used to provide relief from the CTR-based permit limits as anticipated by EPA. It should be noted that the actual language of the rule itself does not mention any of the methods of regulatory relief. Therefore, this analysis will be based solely upon the language contained in the Preamble to the CTR.

#### Alternative Mixing Zones

One of the few avenues that may actually provide some regulatory relief is mixing zones. The Preamble to the CTR describes a mixing zone as a limited area or volume of water where initial dilution of a discharge takes place and where water quality standards can be exceeded. Mixing zones have been applied in the water quality standards program since its inception. The present water quality standards regulations allows states to adopt acute and chronic mixing zones as a matter of state discretion, so long as the state's mixing zone protects the designated uses. See 40 C.F.R. section 131.13.

The Preamble recognizes that several California Regional Water Quality Control Boards have adopted mixing zone provisions in their respective Basin Plans. These mixing zone provisions can be applied to discharges to water bodies to which water quality standards based on the criteria contained in this proposed rule will apply once this rule becomes final. See CTR Preamble at pg. 42185. The problem

arises for the proposal or adoption of new mixing zones where one is not currently authorized under an existing Basin Plan. The Preamble sets out numerous restrictions on the use of mixing zones, as follows:

A mixing zone should be established to ensure that the zone will not impair the integrity of the water body as a whole, the zone will not cause lethality to passing organisms, and, considering likely pathways of exposure, that there are no significant human health risks. For application of two-number aquatic life criteria as proposed in this rule, there may be up to two types of mixing zones. In the zone immediately surrounding the outfall, neither the acute nor the chronic criterion is met. The acute criterion is met at the edge of this zone. In the next mixing zone, the acute, but not the chronic, criterion is met. The chronic criterion is met at the edge of the second mixing zone. However, since both aquatic life and human health criteria are proposed in today's rule, the State may establish independent mixing zone policies for each. For any particular pollutant from any particular discharge, the magnitude, frequency, duration and mixing zone associated with each of the type of criteria may determine which one most limits the allowable discharge. Id.

The other potential problem arises because state-adopted mixing zones are subject to EPA review and approval, See 40 C.F.R. section 131.13. Because EPA approval is required, the question arises whether a federal rulemaking would accompany approval of mixing zones as it does with approval of state variances (which are also authorized under 40 C.F.R. section 131.13). If so, this would greatly restrict the utility of new or alternative mixing zones as an avenue for regulatory relief.

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(\*1) This cost trigger is \$200 per toxic pounds-equivalent for a facility under the low-end scenario, and \$500 per toxic pounds-equivalent for a category of dischargers under the high-end scenario. See EA at pg. 4.

(\*2) In addition, pollutant load reductions were not calculated or credited for any pollutant for which an alternative regulatory approach was pursued. Id.

Response to: CTR-040-051

See response to CTR-004-009.

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Comment ID: CTR-041-006b  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-05 Mixing Zones&Dilution Credit  
References:  
Attachments? N  
CROSS REFERENCES G-04

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Comment: Fifth, the District supports the preamble discussion on both interim permit limits and mixing zones as valid implementation procedures. In addition, however, the District specifically endorses the State's Permitting Task Force recommendations on these two subjects: (1) that interim effluent limits be calculated based on past performance plus future uncertainty, and (2) that the State Water Resources Control Board (SWRCB) should allow the establishment of both acute and chronic mixing zones.

Response to: CTR-041-006b

See response to CTR-004-009.

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Comment ID: CTR-041-047

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-05 Mixing Zones&Dilution Credit

References:

Attachments? N

CROSS REFERENCES

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Comment: The Preamble to the California Toxics Rule (CTR), and the rules accompanying Economic Analysis (EA), place a great deal of emphasis on the ability of dischargers to use alternative regulatory approaches to comply with CTR criteria if the cost of treatment technology was prohibitively expensive. For example, the EA assumes that, if the estimated annualized cost for removing a pollutant exceeded a cost trigger,(\*1) "dischargers would explore the use of alternative regulatory approaches to comply with CTR-based effluent limits." EA at.pg. 4(emphasis added). Based on this assumption, no treatment cost was estimated for the facility.(\*2)

The types of alternative regulatory approaches assumed available for dischargers in California include phased total maximum daily loads (TMDLs), water quality standard variances, site-specific criteria, change in designated use, and alternative mixing zones. EA at pg. 4-5. The following sections will discuss each of EPA's proposed methods for regulatory relief and explain whether or not these methods can truly be used to provide relief from the CTR-based permit limits as anticipated by EPA. It should be noted that the actual language of the rule itself does not mention any of the methods of regulatory relief. Therefore, this analysis will be based solely upon the language contained in the Preamble to the CTR.

#### Alternative Mixing Zones

One of the few avenues that may actually provide some regulatory relief is mixing zones. The Preamble to the CTR describes a mixing zone as a limited area or volume of water where initial dilution of a discharge takes place and where water quality standards can be exceeded. Mixing zones have been applied in the water quality standards program since its inception. The present water quality standards regulations allow states to adopt acute and chronic mixing zones as a matter of state discretion, so long as the state's mixing zone protects the designated uses, See 40 C.F.R. section 131.13.

The Preamble recognizes that several California Regional Water Quality Control Boards have adopted mixing zone provisions in their respective Basin Plans. These mixing zone provisions can be applied to discharges to water bodies to which water quality standards based on the criteria contained in this proposed rule will apply once this rule becomes final. See CTR Preamble at pg. 42185. The problem arises for the proposal or adoption of new mixing zones where one is not currently authorized under an existing Basin Plan. The Preamble sets out numerous restrictions on the use of mixing zones, as follows:

A mixing zone should be established to ensure that the zone will not impair the integrity of the water

body as a whole, the zone will not cause lethality to passing organisms, and, considering likely pathways of exposure, that there are no significant human health risks. For application of two-number aquatic life crime as proposed in this rule, there may be up to two types of mixing zones. In the zone immediately surrounding the outfall, neither the acute nor the chronic criterion is met. The acute criterion is met at the edge of this zone. In the next mixing zone, the acute, but not the chronic, criterion is met. The chronic criterion is met at the edge of the second mixing zone. However, since both aquatic life and human health criteria are proposed in today's rule, the State may establish independent mixing zone policies for each. For any particular pollutant from any particular discharge, the magnitude, frequency, duration and mixing zone associated with each of the type of criteria may determine which one most limits the allowable discharge. Id.

The other potential problem arises because state-adopted mixing zones are subject to EPA review and approval, See 40 C.F.R. section 131.13. Because EPA approval is required, the question arises whether a federal rulemaking would accompany approval of mixing zones as it does with approval of state variances (which are also authorized under 40-C.F.R. section 131.13). If so, this would greatly restrict the utility of new or alternative mixing zones as an avenue for regulatory relief.

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(\*1) This coat trigger is \$200 per toxic pounds-equivalent for a facility under the low-end scenario, and \$500 per toxic pounds-equivalent for a category of dischargers under the high-end scenario. See EA at pg. 4.

(\*2) In addition, pollutant load reductions were not calculated or credited for any pollutant for which an alternative regulatory approach was pursued. Id.

Response to: CTR-041-047

See response to CTR-004-009.

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Comment ID: CTR-043-002e  
Comment Author: City of Vacaville  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-05 Mixing Zones&Dilution Credit  
References:  
Attachments? Y  
CROSS REFERENCES C-22; C-24a; G-01a; G-04; G-09

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Comment: 2. The following provisions of the rule are supported: (1) adoption of metals criteria as dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury; and (4) the Preamble discussions regarding metals, translators, mixing zones and interim permit limits.

Response to: CTR-043-002e

See response to CTR-004-009.

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Comment ID: CTR-044-003e  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-05 Mixing Zones&Dilution Credit  
References:  
Attachments? Y  
CROSS REFERENCES C-22; C-24a; C-01a; G-09; G-04

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Comment: We have reviewed the proposed CTR and offer the following comments:

2. The following provisions of the rule are supported:
  - (1) adoption of metals criteria as dissolved concentrations;
  - (2) expression of the metals criteria as a function of the water-effect ratio;
  - (3) adoption of the proposed new human health criteria for mercury; and
  - (4) the Preamble discussions regarding metals translators, mixing zones, and interim permit limits.

Were the old human health criterion for mercury (0.012 ug/ l) to be adopted, the City would have to remove its discharge from Tule Canal and go to land disposal. The capital cost to do this would be \$22.1 million and the total present worth cost would be \$23.1 million (see Exhibit B, Required Capital improvements and Costs for Beryllium and Mercury). This would translate to an annual cost of \$3.1 million per year (at 7% over 10 years) and would require that monthly sewer service charges be increased by more than 100%.

Response to: CTR-044-003e

See response to CTR-004-009.

With respect to the comment about the economic impact of the old criterion for mercury 0.012 ug/l, EPA has not evaluated these costs since the CTR does not promulgate a mercury criteria of 0.012 ug/l.

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Comment ID: CTR-044-042  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-05 Mixing Zones&Dilution Credit  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: The Preamble to the California Toxics Rule (CTR), and the rules accompanying Economic Analysis (EA), place a great deal of emphasis on the ability of dischargers to use alternative regulatory approaches to comply with CTR criteria if the cost of treatment technology was prohibitively expensive. For example, the EA assumes that, if the estimated annualized cost for removing a pollutant exceeded a cost trigger,(\*1) "dischargers would explore the use of alternative regulatory approaches to comply with CTR-based effluent limits." EA at pg. 4(emphasis added). Based on this assumption, no treatment cost was estimated for the facility.(\*2)

The types of alternative regulatory approaches assumed available for dischargers in California include phased total maximum daily loads (TMDLs), water quality standard variances, site-specific criteria, change in designated use, and alternative mixing zones. EA at pg. 4-5. The following sections will discuss each of EPA's proposed methods for regulatory relief and explain whether or not these methods can truly be used to provide relief from the CTR-based permit limits as anticipated by EPA. It should be noted that the actual language of the rule itself does not mention any of the methods of regulatory relief. Therefore, this analysis will be based solely upon the language contained in the Preamble to the CTR.

### Alternative Mixing Zones

One of the few avenues that may actually provide some regulatory relief is mixing zones. The Preamble to the CTR describes a mixing zone as a limited area or volume of water where initial dilution of a discharge takes place and where water quality standards can be exceeded. Mixing zones have been applied in the water quality standards program since its inception. The present water quality standards regulations allow states to adopt acute and chronic mixing zones as a matter of state discretion, so long as the state's mixing zone protects the designated uses, See 40 C.F.R. section 131.13.

The Preamble recognizes that several California Regional Water Quality Control Boards have adopted mixing zone provisions in their respective Basin Plans. These mixing zone provisions can be applied to discharges to water bodies to which water quality standards based on the criteria contained in this proposed rule will apply once this rule becomes final. See CTR Preamble at pg. 42185. The problem arises for the proposal or adoption of new mixing zones where one is not currently authorized under an existing Basin Plan. The Preamble sets out numerous restrictions on the use of mixing zones, as follows:

A mixing zone should be established to ensure that the zone will not impair the integrity of the water body as a whole, the zone will not cause lethality to passing organisms, and, considering likely pathways of exposure, that there are no significant human health risks. For application of two-number aquatic life criteria as proposed in this rule, there may be up to two types of mixing zones. In the zone immediately surrounding the outfall, neither the acute nor the chronic criterion is met. The acute criterion is met at the edge of this zone. In the next mixing zone, the acute, but not the chronic, criterion is met. The chronic criterion is met at the edge of the second mixing zone. However, since both aquatic life and human health criteria are proposed in today's rule, the State may establish independent mixing zone policies for each. For any particular pollutant from any particular discharge, the magnitude, frequency, duration and mixing zone associated with each of the type of criteria may determine which one most limits the allowable discharge. Id.

The other potential problem arises because state-adopted mixing zones are subject to EPA review and approval, See 40 C.F.R. section 131.13. Because EPA approval is required, the question arises whether a federal rulemaking would accompany approval of mixing zones as it does with approval of state variances (which are also authorized under 40-C.F.R. section 131.13). If so, this would greatly restrict

the utility of new or alternative mixing zones as an avenue for regulatory relief.

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(\*1) This coat trigger is \$200 per toxic pounds-equivalent for a facility under the low-end scenario, and \$500 per toxic pounds-equivalent for a category of dischargers under the high-end scenario. See EA at pg. 4.

(\*2) In addition, pollutant load reductions were not calculated or credited for any pollutant for which an alternative regulatory approach was pursued. Id.

Response to: CTR-044-042

See response to CTR-004-009.

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Comment ID: CTR-045-008  
Comment Author: Sausalito-Marín Sanitary Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: G-05 Mixing Zones&Dilution Credit  
References:

Attachments? Y

CROSS REFERENCES

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Comment: The District supports many of the items included in the proposed CTR:

EPA's policies and guidance regarding the application of mixing zones and dilution credits.

Response to: CTR-045-008

See response to CTR-004-009.

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Comment ID: CTR-052-002d  
Comment Author: East Bay Dischargers Authority  
Document Type: Sewer Authority  
State of Origin: SC  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-05 Mixing Zones&Dilution Credit  
References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES C-22; C-01a; G-09; G-04

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Comment: EPA will recall the State Water Quality Plans Task Forces that included all stakeholders, including EPA. The Authority appreciates the incorporation of many of the consensus recommendations

from the Task Forces into the CTR, including:

- \* Adoption of the metals criteria as dissolved concentrations and the expression of the criteria as a function of the water-effect ratio
- \* Adoption of the proposed new human health criterion for mercury
- \* Preamble discussions regarding metals translators, mixing zones, and interim permit limits

Response to: CTR-052-002d

See response to CTR-004-009.

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Comment ID: CTR-052-019

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: G-05 Mixing Zones&Dilution Credit

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

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Comment: C. RECOMMENDATIONS FOR MODIFICATIONS TO THE CTR AND EA

EPA should mandate that the State Board continue to use defensible dilution credits. Only if documented human health and/or aquatic toxicity problems are shown to exist in specific segments of water bodies should the State and Regional Boards be allowed to consider modifications to continued use of dilution credits.

Response to: CTR-052-019

EPA does not believe that it is appropriate to mandate that the State use dilution credits or mixing zones because these decisions are most appropriately addressed at the State and local level. The State has discretion to make modifications to its mixing zone policy based on any scientific or policy grounds as long as the modifications are consistent with State and Federal law. The State is not required to limit modifications to its mixing zone policy only to those cases where human health or toxicity problems are shown to exist in specific segments of water bodies. States may always be more stringent than EPA in adopting water quality standards. See section 510 of the Clean Water Act.

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Comment ID: CTR-054-004b

Comment Author: Bay Area Dischargers Assoc.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-05 Mixing Zones&Dilution Credit

References:

Attachments? Y

CROSS REFERENCES G-09; G-04

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Comment: BADA supports the Preamble discussions regarding metals translators, mixing zones, and interim permit limits. Translators and mixing zones will provide a better scientific basis for the application of the criteria and will go a long way toward protecting against the imposition of unnecessary or unreasonable controls. Interim permit limits will allow dischargers faced with potential attainability problems to pursue reasonable actions, such as pollution prevention, treatment plant optimization, pollutant trading, TMDLS, etc. prior to being faced with final effluent limitations. BADA endorses the recommendation of the State Plan Public Task Forces on the issue of interim limits.

Response to: CTR-054-004b

See response to CTR-004-009.

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Comment ID: CTR-054-046

Comment Author: Bay Area Dischargers Associati

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-05 Mixing Zones&Dilution Credit

References:

Attachments? N

CROSS REFERENCES

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Comment: The Preamble to the California Toxics Rule (CTR), and the rules accompanying Economic Analysis (EA), place a great deal of emphasis on the ability of dischargers to use alternative regulatory approaches to comply with CTR criteria if the cost of treatment technology was prohibitively expensive. For example, the EA assumes that, if the estimated annualized cost for removing a pollutant exceeded a cost trigger,(\*1) "dischargers would explore the use of alternative regulatory approaches to comply with CTR-based effluent limits." EA at.pg. 4(emphasis added). Based on this assumption, no treatment cost was estimated for the facility.(\*2)

The types of alternative regulatory approaches assumed available for dischargers in California include phased total maximum daily loads (TMDLs), water quality standard variances, site-specific criteria, change in designated use, and alternative mixing zones. EA at pg. 4-5. The following sections will discuss each of EPA's proposed methods for regulatory relief and explain whether or not these methods can truly be used to provide relief from the CTR-based permit limits as anticipated by EPA. It should be noted that the actual language of the rule itself doesnot mention any of the methods of regulatory relief. Therefore, this analysis will be based solely upon the language contained in the Preamble to the CTR.

Alternative Mixing Zones

One of the few avenues that may actually provide some regulatory relief is mixing zones. The Preamble to the CTR describes a mixing zone as a limited area or volume of water where initial dilution of a

discharge takes place and where water quality standards can be exceeded. Mixing zones have been applied in the water quality standards program since its inception. The present water quality standards regulations allows states to adopt acute and chronic mixing zones as a matter of state discretion, so long as the state's mixing zone protects the designated uses, See 40 C.F.R. section 131.13.

The Preamble recognizes that several California Regional Water Quality Control Boards have adopted mixing zone provisions in their respective Basin Plans. These mixing zone provisions can be applied to discharges to water bodies to which water quality standards based on the criteria contained in this proposed rule will apply once this rule becomes final. See CTR Preamble at pg. 42185. The problem arises for the proposal or adoption of new mixing zones where one is not currently authorized under an existing Basin Plan. The Preamble sets out numerous restrictions on the use of mixing zones, as follows:

A mixing zone should be established to ensure that the zone will not impair the integrity of the water body as a whole, the zone will not cause lethality to passing organisms, and, considering likely pathways of exposure, that there are no significant human health risks. For application of two-number aquatic life crime as proposed in this rule, there may be up to two types of mixing zones. In the zone immediately surrounding the outfall, neither the acute nor the chronic criterion is met. The acute criterion is met at the edge of this zone. In the next mixing zone, the acute, but not the chronic, criterion is met. The chronic criterion is met at the edge of the second mixing zone. However, since both aquatic life and human health criteria are proposed in today's rule, the State may establish independent mixing zone policies for each. For any particular pollutant from any particular discharge, the magnitude, frequency, duration and mixing zone associated with each of the type of criteria may determine which one most limits the allowable discharge. Id.

The other potential problem arises because state-adopted mixing zones are subject to EPA review and approval, See 40 C.F.R. section 131,13. Because EPA approval is required, the question arises whether a federal rulemaking would accompany approval of mixing zones as it does with approval of state variances (which are also authorized under 40-C.F.R. section 131.13). If so, this would greatly restrict the utility of new or alternative mixing zones as an avenue for regulatory relief.

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(\*1) This coat trigger is \$200 per toxic pounds-equivalent for a facility under the low-end scenario, and \$500 per toxic pounds-equivalent for a category of dischargers under the high-end scenario. See EA at pg. 4.

(\*2) In addition, pollutant load reductions were not calculated or credited for any pollutant for which an alternative regulatory approach was pursued. Id.

Response to: CTR-054-046

See response to CTR-004-009.

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Comment ID: CTR-056-007  
Comment Author: East Bay Municipal Util. Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97

Subject Matter Code: G-05 Mixing Zones&Dilution Credit  
References: Letter CTR-056 incorporates by reference letter CTR-054  
Attachments? N  
CROSS REFERENCES

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Comment: Second, EBMUD would like to express to EPA its support for inclusion of:

\* EPA's policy regarding and guidance on the application of mixing zones and dilution credits,

Response to: CTR-056-007

See response to CTR-004-009.

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Comment ID: CTR-058-008  
Comment Author: Western States Petroleum Assoc  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-05 Mixing Zones&Dilution Credit  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: 7. Mixing Zones. WSPA supports EPA's recognition of the use of mixing zones.

In proposing the rule, EPA has recognized the appropriate role of mixing zones in setting and achieving WQBELS. EPA regulations, policy and guidance (e.g., the Technical Support Document for WQBELS) amply support their use in protecting receiving water.

WSPA supports the use of sound science in determining mixing zones and the actual degree of mixing achieved by today's engineered diffusers in establishing mixing zones and dilution credit. EPA should encourage states and regulators to make use of sound science, rather than arbitrary dilution factors, in establishing mixing zones. To this end WSPA supports additional EPA outreach to the states and state regulators to achieve a comfort level with using sound science and avoiding arbitrary decisions.

Response to: CTR-058-008

See response to CTR-004-009.

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Comment ID: CTR-060-002  
Comment Author: San Diego Gas and Electric  
Document Type: Electric Utility  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97

Subject Matter Code: G-05 Mixing Zones&Dilution Credit

References:

Attachments? N

CROSS REFERENCES

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Comment: PROVISIONS SDG&E SUPPORTS

EPA has included in the proposed CTR provisions which are reasonable and with which SDG&E supports. These include:

Mixing zones

Acute and chronic mixing zones play an important role in the implementation of water quality based effluent limits. SDG&E supports EPA's inclusion of the use of mixing zones in the proposed rule (see 62 Fed. Reg. at 42206, Col. 2).

Response to: CTR-060-002

See response to CTR-004-009.

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Comment ID: CTR-066-010

Comment Author: Delta Diablo Sanitation Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: G-05 Mixing Zones&Dilution Credit

References:

Attachments? N

CROSS REFERENCES

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Comment: Our preliminary review of the CTR finds several areas that we believe are positive changes and will enhance the rulemaking. The areas that we support are as follows:

\* EPA's policies and guidance regarding the application of mixing zones and dilution credits.

Response to: CTR-066-010

See response to CTR-004-009.

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Comment ID: CTR-077-002

Comment Author: Bay Planning Coalition

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: G-05 Mixing Zones&Dilution Credit

References:

Attachments? N

CROSS REFERENCES

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Comment: Mixing Zone Policy

According to the Guidelines, the Mixing zone calculations as applied to dredge sediment testing are performed in accordance with the "Green Book" (EPA/Corps 1991). We support EPA's recognition of the use of mixing zones in the Toxics Rule.

Response to: CTR-077-002

See response to CTR-004-009.

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Comment ID: CTR-081-002h

Comment Author: West County Agency

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: G-05 Mixing Zones&Dilution Credit

References:

Attachments? N

CROSS REFERENCES G-04; C-24a; G-02; C-22; G-09; C-01a; C-08a

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Comment: \* There are many aspects of the CTR that we support. These include: a) Application of interim limits while special studies are performed. b) Approach to water effect ratios for determining site specific criteria. c) Inclusion of provision for compliance schedules. However, this should be modified to allow inclusion of compliance schedules of up to 15 years in permits if deemed appropriate by Regional Boards. d) Metals criteria expressed as dissolved rather than total recoverable concentrations. e) EPA's guidance to Regional Boards regarding use of translators. f) EPA's proposal to create a rebuttal presumption for Water Effects Ratios, g) Revised human health criteria for mercury h) Decision to not promulgate human health criteria at this time in light of issues surrounding health criteria for arsenic. i) EPA's policies regarding application of mixing zones and dilution credits.

Response to: CTR-081-002h

See response to CTR-004-009.

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Comment ID: CTR-085-011

Comment Author: Camarillo Sanitary District

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: G-05 Mixing Zones&Dilution Credit

References:

Attachments? N

CROSS REFERENCES

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Comment: On several aspects of the California Toxics Rule, the District is in agreement with CASA and SCAP comments:

\* The EPA's policies and guidance regarding the application of mixing zones and dilution credits.

Response to: CTR-085-011

See response to CTR-004-009.

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Comment ID: CTR-086-004h

Comment Author: EOA, Inc.

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org: California Dent

Document Date: 09/26/97

Subject Matter Code: G-05 Mixing Zones&Dilution Credit

References: Letter CTR-086 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES G-01; C-22; G-09; C-24a; C-24; K-03; G-04; G-02

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Comment: Regulatory Flexibility and Relief

CDA supports language in the CTR Preamble that references and endorses recommendations of the State Task Forces including in part the use of.

\* reasonable potential analyses \* dissolved metals criteria \* translators \* water effects ratios \* site specific objectives \* innovative TMDL processes such as effluent trading \* performance based interim limits \* chronic and acute mixing zones, and \* compliance schedules in NPDES permits.

Response to: CTR-086-004h

See response to CTR-004-009.

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Comment ID: CTR-089-001d

Comment Author: Las Virgenes Mncpl Water Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: G-05 Mixing Zones&Dilution Credit

References:

Attachments? N

CROSS REFERENCES C-22; C-01a; C-08a; K-01; G-02; G-09

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Comment: The draft California Toxics Rule (CTR) is clearly the product of substantial effort by USEPA staff, and we applaud this effort and its intent. On several issues of concern to public utilities, the CTR strikes a good balance between the need to promulgate standards and the need to base those standards on sound science. Examples include the use of dissolved concentrations rather than the total recoverable concentrations for metals, the deferral of human health criteria for arsenic until adequate information is available, and the revision of the human health criterion for mercury. We are also pleased with the CTR's guidance and flexibility, on mixing zones and dilution credits, total maximum daily loads (TMDLs), compliance schedules, and translators.

Response to: CTR-089-001d

See response to CTR-004-009.

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Comment ID: CTR-090-002d

Comment Author: C&C of SF, Public Util. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-05 Mixing Zones&Dilution Credit

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES C-17a; C-24a; C-22; G-02; G-04

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Comment: There are many features of the proposed rule which we strongly endorse, specifically:

- \* the use of the latest IRIS values for human health criteria, it is essential that the criteria be based on the latest scientific and environmental information;
- \* recognition that the dissolved fraction of metals, rather than the total recoverable, better reflect the aquatic toxicity of metals;
- \* recognition that for certain metals (e.g. copper and zinc) ambient water chemistry is critical in determining toxicity thereby endorsing the Water Effects Ratio;
- \* recognition and strong endorsement of the multi-tiered mixing zones for acute, chronic and human health effects; and
- \* recognition of interim limits and compliance schedules as appropriate implementation strategies,

Response to: CTR-090-002d

See response to CTR-004-009.

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Comment ID: CTR-092-007  
Comment Author: City of San Jose, California  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-05 Mixing Zones&Dilution Credit  
References: Letter CTR-092 incorporates by reference letter CTR-035  
Attachments? Y  
**CROSS REFERENCES**

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Comment: Mixing Zones

The City fully supports the discussion and allowance of mixing zones for both acute and chronic criteria in accordance with EPA's water quality standards program. The establishment of mixing zones should be allowed in those instances where designated uses remain unimpaired, where the zone does not result in lethal doses to resident organisms, and where human health aspects are adequately protected.

Response to: CTR-092-007

See response to CTR-004-009.

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Comment ID: CTRH-001-022b  
Comment Author: Julio Guerra  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: City of Merced  
Document Date: 09/17/97  
Subject Matter Code: G-05 Mixing Zones&Dilution Credit  
References:  
Attachments? N  
**CROSS REFERENCES G-07**

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Comment: There are good things in here regarding the variances and the recognition of the existence of ephemeral streams. And the naturally occurring pollution, you know, has to be taken into account when it actually applies to water quality standards.

I would observe in that regard that the NPDES program recognizes that intake credits may sometimes be appropriately applied to adjust effluent limits. But in the NPDES language it states that that only can occur when you discharge into the same water body that you take the water from.

In our case, of course, we use groundwater. And, as an example, it may contain arsenic. And the arsenic isn't really removed from the water before it is discharged to surface water. We don't fit the mold of being authorized those intake credits, because we're not discharging into the same water body that we draw water from.

Response to: CTRH-001-022b

EPA recognizes that a same body of water demonstration may be more difficult for a municipality using groundwater; however, groundwater as a category is not excluded necessarily from eligibility for a same body of water determination. EPA's rationale for intake credits is based on two guiding principles: 1) the source water and receiving water are hydrologically connected; and, 2) that the pollutant would have ended up in the receiving water had the man-induced removal and reintroduction of the pollutant not occurred. If a same body of water determination cannot be made, there are other more appropriate forms of flexibility for inter-water body transfers of pollutants where the discharger is unable to comply with its new or more stringent water quality-based effluent limit, e.g., variances, compliance schedules.

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Comment ID: CTRH-001-024b  
Comment Author: Michelle Pla  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: S.F. Public Utilities Com  
Document Date: 09/17/97  
Subject Matter Code: G-05 Mixing Zones&Dilution Credit  
References:  
Attachments? N  
CROSS REFERENCES g-02; c-22; c-24a; c-17a

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Comment: MS. PLA: My name is Michelle Pla. I'm with the Public Utilities Commission, City and County of San Francisco.

I made the comment on my card that I also said that I would try to be constructive, and so I'm going to follow my mentor here, Phil Bobel, and say that there are some things in this rule that we're very pleased to see.

We're very pleased to see use of the latest scientific information, particularly the use of latest IRIS, I-R-I-S, numbers-for human health. We're very pleased that you're using dissolved versus total recoverable form for the metals.

We're very pleased to see recognition of the water effects ratios. We're pleased to see recognition for a multi-tiered mixing zone for acute and chronic human health effects and hope that the state pays particular attention to that.

We do have a problem with the way you've described compliance schedules and hope to be working strictly by the state on that as well. We think that the five-year system is fairly shortsighted, and -we can't even do FMDSLs in five years.

Response to: CTRH-001-024b

See response to CTR-004-009.

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Comment ID: CTRH-001-032c  
Comment Author: Dave Brent  
Document Type: Public Hearing  
State of Origin: CA

Represented Org: CA Water Qual. Task Force  
Document Date: 09/17/97  
Subject Matter Code: G-05 Mixing Zones&Dilution Credit  
References:  
Attachments? N  
CROSS REFERENCES C-22; C-24a

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Comment: I would like to take this time to note that I think it contains some important elements that we agree with and believe are reflective of the impact. These include the uses of dissolved metals and the provisions which will enable the state to use mixing zones and water effects ratios and establish site-specific objectives.

Response to: CTRH-001-032c

See response to CTR-004-009.

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Comment ID: CTRH-001-057g  
Comment Author: Dave Tucker  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: San Jose Env. Serv. Dept.  
Document Date: 09/17/97  
Subject Matter Code: G-05 Mixing Zones&Dilution Credit  
References:  
Attachments? N  
CROSS REFERENCES K-03; C-24a; G-04; G-07; G-09; C-22

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Comment: Some of the flexibility that the City highly supports is the water effect ratio investigations to adjust statewide criteria to site-specific conditions; the interim limits concept while special studies are being conducted by the dischargers and other entities; a variance procedure to allow dischargers to achieve progress toward effluent limit attainment without violating applicable water quality standards; dissolved criteria for metals to reflect the toxicological conditions; translators to adjust dissolved criteria to total permit limitations; trading programs to attain and maintain water quality; and a mixing zone that reflects true instream pollutant conditions and that protects beneficial uses.

Response to: CTRH-001-057g

See response to CTR-004-009.

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Subject Matter Code: G-06 NWQI

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Comment ID: CTR-061-020

Comment Author: G. Fred Lee & Associates

Document Type: Academia

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-06 NWQI

References:

Attachments? Y

CROSS REFERENCES

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Comment: National Water Quality Inventory

At the September 17, 1997 hearing on the proposed CTR, the US EPA Region 9 made available on the table in the hearing room a copy of the US EPA Fact Sheet "National Water Quality Inventory: 1994 Report to Congress" (1995) evidently to try to convince the hearing participants that the adoption of the proposed CTR criteria was necessary to protect the Nation's waters from the impact of toxics that are regulated by the proposed CTR. Shortly after the release of that report to Congress, I conducted a review of the procedures used by the US EPA and the states in determining the presence of so-called "impaired" waters and found that the Agency had again used unreliable procedures for designating impaired waters. Enclosed is a copy of a report, "Unreliable Reporting of Water Quality Impairment by the US EPA's National Water Quality Inventory," Feb (1996) that I have prepared on this issue. The Agency dictates to the states that they must list as impaired any waterbody for which there is an exceedance of a water quality criterion more than once in three years. The Agency ignores the well-known fact that many of the exceedances are administrative, arising from the overly protective nature of the criteria that results from the failure of the criteria and the water effects ratio approach to properly incorporate the aquatic chemistry of the regulated constituents into assessing potential toxicity to aquatic life. The actual amount of real use-impaired waters of concern to the public is far less than that predicted by the US EPA "Fact Sheet."

Response to: CTR-061-020

First, EPA notes that the National Water Quality Inventory Reports (also referred to as the CWA Section 305(b) report) and the guidance used by States and Indian Tribes for developing these reports are outside of the scope of today's rule. The Agency will, however, take the commenter's concerns under advisement and consider those concerns expressed in the review of the Section 305(b) guidance for preparing the reports which EPA jointly develops with States and Indian Tribes.

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Subject Matter Code: G-07 Variances

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Comment ID: CTR-004-007

Comment Author: South Bayside System Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: G-07 Variances

References:

Attachments? N

**CROSS REFERENCES**

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Comment: Available Regulatory Relief under the California Toxics Rule

The Preamble to the California Toxics Rule (CTR), and the rules accompanying Economic Analysis (EA), place a great deal of emphasis on the ability of dischargers to use alternative regulatory approaches to comply with CTR criteria if the cost of treatment technology was prohibitively expensive. For example, the EA assumes that, if the estimated annualized cost for removing a pollutant exceeded a cost trigger,(\*1) "dischargers would explore the use of alternative regulatory approaches to comply with CTR-based effluent limits." EA at. pg. 4 (emphasis added). Based on this assumption, no treatment cost was estimated for the facility. (\*2)

The types of alternative regulatory approaches assumed available for dischargers in California include phased total maximum daily loads (TMDLs), water quality standard variances, site-specific criteria, change in designated use, and alternative mixing zones. EA at pg. 4-5. The following sections will discuss each of EPA's proposed methods for regulatory relief and explain whether or not these methods can truly be used to provide relief from the CTR-based permit limits as anticipated by EPA. It should be noted that the actual language of the rule itself does not mention any of the methods of regulatory relief. Therefore, this analysis will be based solely upon the language contained in the Preamble to the CTR.

Water Quality Standard Variances/ Designated Use Modifications

The Preamble to the CTR discusses variances as a form of regulatory relief that might be pursued by dischargers. See 62 Fed.Rec., 42,185-6. The Preamble provides that States may adopt a statewide policy (or Regional Boards may adopt Basin-wide policies) to allow water quality standard variances for individual dischargers. The variance Policy Would allow the State or Regional Board to grant a variance to an individual permittee from a water quality standard,(\*5) which is the basis of a water quality-based effluent limitation in a permit. However, there are some serious restrictions placed on the use of variances. The following lays out these restrictions:

\* Variances are not allowed for new or recommencing dischargers.

\* Variances are discharger and pollutant specific. In other words, the water quality standard variance applies only to the permittee requested the variance and only to the pollutant or pollutants specified in the variance.

\* Once a variance has been approved by the State, it must be submitted to EPA for approval. - EPA will only approve variances if consistent with the substantive requirements set out at 40 CFR Part 131 for

removing a designated use.(\*6)

\* EPA will only approve state variances if specific provisions are included.(\*7)

\* EPA would have to tinker with a federal rulemaking to make the necessary changes to this rule to allow for State-approved variances. The Preamble explains this restriction as follows:

EPA, however, cautions California and the public that promulgation of this federal rule removes most of the flexibility available to the State for modifying its standards on a discharger-specific or stream-specific basis. For example, variances and site-specific criteria development are actions sometimes adopted by states. These are optional policies under terms of the federal water quality standards regulation. Except for the water-effect ratio procedure for certain metals, EPA has not incorporated either optional policy, in general, in this proposed rulemaking, that is, EPA has not generally authorized State modifications of federal water quality. Each of these types of modifications will, in general, require federal rulemaking on a case by case basis to change the federal rule. Because of the time consuming nature of reviewing such requests, limited federal resources, and the need for the Agency to move into other priority program areas in establishing environmental controls, EPA alerts California and the public that a prompt Agency response is unlikely. The best course of action, if such provisions are desired, is for the State to adopt its own standards and take advantage, if it so chooses, of the flexibility offered by these optional provisions.(\*8)

Because of all of the restrictions placed on their use, variances are not really a viable option for regulatory relief. The only way for variances to be a viable option would be for EPA to incorporate a variance policy into the proposed rule that would authorize State modifications of federal water quality standards.

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(\*1) This cost trigger is \$200 per toxic pounds-equivalent for a facility under the low-end scenario, and \$500 per toxic pounds-equivalent for a category of dischargers under the high-end scenario, See EA at pg. 4.

(\*2) In addition, pollutant load reductions were not calculated or credited for any pollutant for which an alternative regulatory approach was pursued. Id.

(\*4) EPA, Guidance for Water Quality-based Decisions: The TMDL Process, EPA Doc. No. 440/4-91-001 at pg. 20 (April 1991) (Emphasis added).

(\*5) The variance would allow the permittee time to achieve reasonable progress towards attaining a specific water quality based effluent limitation, without violating CWA section 402(a)(1), which requires that NPDES permittees meet all applicable water quality standards. See 62 Fed.Reg. 42185-6. A variance does not effect the corresponding water quality standard for the water body receiving the discharge. Variances are designed to preserve the underlying water quality standard over the long term, while providing flexibility to individual dischargers in complying with permit limits based on the standards. When a variance is granted, the discharger is assured compliance during the term of a variance, as long as all variance conditions are met. Id.

(\*6) Specifically, the State's policy must require the inclusion of a demonstration that a water quality standard is unattainable, based on one or more of the following grounds: 1. Naturally occurring pollutant concentrations prevent the attainment of the water quality standard; 2. Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the water quality standard, unless these

conditions may be compensated for by the discharge of sufficient volume of effluent to enable the standard to be met without violating State water conservation requirements; 3. Human-caused conditions or sources of pollution prevent the attainment of the water quality standard and cannot be remedied, or would cause more environmental damage to correct than to leave in place; 4. Dams, diversions or other types of hydrologic modifications preclude the attainment of a water quality standard, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the standard; 5. Physical conditions related to the natural features of the water body, such as the lack of a proper substrate cover, flow, depth, pools, riffles, and the like, unrelated to chemical water quality, preclude attainment of the water quality standard; or 6. Controls more stringent than those required by CWA sections 301(b) and 306 would result in substantial and widespread economic and social impact.

(\*7) The required provisions are as follows: 1. The State will include each individual variance as part of its water quality standard or water quality plan; 2. The variance will include documentation that treatment more advanced than that required by CWA section 301(b) and 306 has been carefully considered, and that alternative effluent control strategies have been evaluated; 3. The underlying, more stringent criterion will be maintained and will be binding on all other dischargers; 4. The discharger who will be given a variance for one particular constituent will be required to meet the applicable criteria for other constituents; 5. The variance will be granted for a specific period of time and must be rejustified upon expiration, but at least every three years; 6. Reasonable progress will be made towards meeting the underlying standards; 7. The variance will not likely jeopardize the continued existence of any threatened or endangered species listed under Section 4 of the Endangered Species Act or result in the destruction or adverse modification of such species' critical habitat; and 8. The variance will be subjected to public notice, comment, and hearing. See CWA section 303(c)(t) and 40 CFR 131.20. The public notice should contain a clear description of the impact of the variances upon achieving the water quality standard in the water body.

(\*8) See CTR Preamble at pg. 42195-6. Further guidance on variance policies is provided in EPA's 1994 Water Quality Standards Handbook, Chapters 2 and 5 (EPA 823-B-94-005a, August 1994).

Response to: CTR-004-007

EPA disagrees that variances are not a viable option for regulatory relief for dischargers. The ability of States to develop site specific criteria or to grant variances and exceptions to water quality standards are optional procedures that are available to States (See 40 CFR 131.11(b)(ii) and 131.3). It is neither a statutory nor a regulatory requirement to develop site specific criteria or to issue variances.

Since the criteria in this rule are Federal criteria that are applicable in the State, the State cannot unilaterally establish site-specific criteria or issue variances to the Federal rule. Such provisions are still available to the State, but are more cumbersome as it requires the State to meet all the regulatory requirements for developing such procedures, but then EPA would need to undertake a Federal rulemaking process on a case by case basis in order to effectuate changes to the rule in accordance with the Administrative Procedures Act. EPA emphasizes that this is a strong reason for California to act to adopt its own numeric criteria even after this Federal promulgation action is taken.

The basis for assuming that regulatory relief would be available under certain circumstances for purposes of estimating costs is explained in the economic analysis for this rule. Note that EPA's high end cost estimate assumed that no regulatory relief would be available to dischargers. See also response to comment CTR-032-004 (Category E-01m).

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Comment ID: CTR-015-005  
Comment Author: Eastern Municipal Water Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/23/97  
Subject Matter Code: G-07 Variances  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Variances (FR p. 42185, Preamble section F.3.)

The Agency describes the procedures and demonstrations that any state-adopted variance policy must contain, and also states that the Agency must approve the policy. Additionally, should any variance from a water quality criterion subsequently result from the state policy, it is indicated that a federal rulemaking must occur to recognize each variance from the Rule. Is this true? Agency "approval" is required, according to the Agency's Water Quality Standards Handbook (1994). If the Agency approves a state variance policy, then actions under the policy should follow the policy procedures, whether the criteria are federal or state. The last part of these statements essentially denies modifications to the water quality criteria. The Agency is effectively removing the flexibility which seems to be under the purview of the state.

Response to: CTR-015-005

See response to CTR-004-007.

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Comment ID: CTR-035-035  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-07 Variances  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: pp. 42185-42186 -- Variances The Preamble encourages the SWRCB to adopt a policy allowing dischargers to apply for variances, but stops short of adopting a provision in the CTR allowing variances. EPA further states that the granting of variances will require a federal rulemaking on a case-by-case basis, and that "a prompt Agency response is unlikely." As with site-specific criteria, we object, on the one hand, to EPA's assumption in the cost analysis that regulatory relief mechanisms such as variances will not only be available but will be granted to dischargers, while on the other hand EPA essentially states that it does not intend to grant variances. We believe these approaches conflict, and that EPA must resolve these inconsistencies before finalizing the CTR- Therefore, we strongly urge EPA

to include a provision in the CTR authorizing the issuance of variances. However, we recommend that EPA provide flexibility in variance procedures to allow for such things as variances without federal rulemaking requirements, and consideration of multiple discharger (or water body) variances, consistent with the policy of fostering collaborative, watershed-based solutions to water quality problems.

Response to: CTR-035-035

See response to CTR-005-009

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Comment ID: CTR-040-049

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-07 Variances

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: The Preamble to the California Toxics Rule (CTR), and the rules accompanying Economic Analysis (EA), place a great deal of emphasis on the ability of dischargers to use alternative regulatory approaches to comply with CTR criteria if the cost of treatment technology was prohibitively expensive. For example, the EA assumes that, if the estimated annualized cost for removing a pollutant exceeded a cost trigger,(\*1) dischargers would explore the use of alternative regulatory approaches to comply with CTR-based effluent limits." EA at.pg. 4 (emphasis added). Based on this assumption, no treatment cost was estimated for the facility.(\*2)

The types of alternative regulatory approaches assumed available for dischargers in California include phased total maximum daily loads (TMDLs), water quality standard variances, site-specific criteria, change in designated use, and alternative mixing zones. EA at pg. 4-5. The following sections will discuss each of EPA's proposed methods for regulatory relief and explain whether or not these methods can truly be used to provide relief from the CTR-based permit limits as anticipated by EPA. It should be noted that the actual language of the rule itself does not mention any of the methods of regulatory relief. Therefore, this analysis will be based solely upon the language contained in the Preamble to the CTR.

#### Water Quality Standard Variances/ Designated Use Modifications

The Preamble to the CTR discusses variances as a form of regulatory relief that might be pursued by dischargers. See 62 Fed. Reg. 42,185-6. The Preamble provides that States may adopt a statewide policy (or Regional Boards may adopt Basin-wide policies) to allow water quality standard variances for individual dischargers. The variance policy would allow the State or Regional Board to grant a variance to an individual permittee from a water quality standard,(\*5) which is the basis of a water quality-based effluent limitation in a permit. However, there are some serious restrictions placed on the use of variances. The following lays out these restrictions:

\* Variances are not allowed for new or recommencing dischargers. \* Variances are discharger and pollutant specific. In other words, the

water quality standard variance applies only to the permittee requesting the variance and only to the pollutant or pollutants specified in the variance. \* Once a variance has been approved by the State, it must be submitted to EPA for approval. - EPA will only approve variances if consistent with the substantive requirements set out at 40 CFR Part 131 for removing a designated use.(\*6) - EPA will only approve state variances if specific provisions are included.(\*7) - EPA would have to undertake a federal rulemaking to make the necessary changes to this rule to allow for State-approved variances, The Preamble explains this restriction as follows:

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- 2.

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Response to: CTR-040-049

See Response to CTR-035-035.

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Comment ID: CTR-041-045

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-07 Variances

References:

Attachments? N

**CROSS REFERENCES**

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Comment: The Preamble to the California Toxics Rule (CTR), and the rules accompanying Economic Analysis (EA), place a great deal of emphasis on the ability of dischargers to use alternative regulatory

approaches to comply with CTR criteria if the cost of treatment technology was prohibitively expensive. For example, the EA assumes that, if the estimated annualized cost for removing a pollutant exceeded a cost trigger,<sup>(\*1)</sup> "dischargers would explore the use of alternative regulatory approaches to comply with CTR-based effluent limits." EA at pg. 4 (emphasis added). Based on this assumption, no treatment cost was estimated for the facility.<sup>(\*2)</sup>

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- \* Variances are not allowed for new or recommending dischargers.
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Response to: CTR-041-045

See Response to CTR-004-007.

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Comment ID: CTR-044-040

Comment Author: City of Woodland

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: G-07 Variances

References:

Attachments? N

**CROSS REFERENCES**

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Response to: CTR-044-040

See response to CTR-004-007.

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Comment ID: CTR-050-005b  
Comment Author: Sonnenschein Nath & Rosenthal  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org: American Petrol  
Document Date: 09/26/97  
Subject Matter Code: G-07 Variances  
References:  
Attachments? N  
CROSS REFERENCES C-24

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Comment: II. EPA Should Allow Variances and Site-Specific modifications.

Beyond the issue of whether EPA has the authority to issue the proposed rule, there are other significant problems with the proposal. For example, the Agency has made the inexplicable decision not to include provisions that would allow for issuance of variances or site-specific modifications to the criteria. This is despite the Agency's recognition that a variance procedure is an "important procedure to assist the State in effectively implementing water quality standards." (62 Fed. Reg. at 42185). EPA gives absolutely no explanation for its decision not to allow use of this procedure. Moreover, the Agency concedes that "promulgation of this federal rule removes most of the flexibility available to the State for modifying its standards on a discharger-specific or stream-specific basis. " Instead, an applicant would have to ask EPA to begin a "federal rulemaking on a case-by-case basis to change the federal rule." (62 Fed. Reg. at 42186) EPA makes it quite clear that applicants should not expect any relief from that avenue, because the Agency simply has more important things to do:

Because of the time consuming nature of reviewing such requests, limited federal resources, and the need for the Agency to move into other priority program areas in establishing environmental controls, EPA alerts California and the public that a prompt Agency response is unlikely.

Despite this cavalier dismissal of the need for actually acting on variance and site criteria applications, the Agency does not hesitate to mention those mechanisms in its economic analysis as being available to moderate the impact of the proposed rule. The Agency specifically mentions variances and site-specific criteria when it states that "these implementation procedures can have an effect on how water quality standards, based on today's proposed rule, will impact NPDES permit holders." (62 Fed. Reg. at 42192). In fact, that statement is clearly false, given EPA's decision not to include variance or site-specific criteria procedures in the proposed rule. The Agency should reconsider that decision and insert those provisions.

Response to: CTR-050-005b

See response to CTR-035-035.

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Comment ID: CTR-054-044  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97

Subject Matter Code: G-07 Variances

References:

Attachments? N

CROSS REFERENCES

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Comment: The Preamble to the California Toxics Rule (CTR), and the rules accompanying Economic Analysis (EA), place a great deal of emphasis on the ability of dischargers to use alternative regulatory approaches to comply with CTR criteria if the cost of treatment technology was prohibitively expensive. For example, the EA assumes that, if the estimated annualized cost for removing a pollutant exceeded a cost trigger,(\*1) "dischargers would explore the use of alternative regulatory approaches to comply with CTR-based effluent limits." EA at.pg. 4(emphasis added). Based on this assumption, no treatment cost was estimated for the facility.(\*2)

The types of alternative regulatory approaches assumed available for dischargers in California include phased total maximum daily loads (TMDLs), water quality standard variances, site-specific criteria, change in designated use, and alternative mixing zones. EA at pg. 4-5. The following sections will discuss each of EPA's proposed methods for regulatory relief and explain whether or not these methods can truly be used to provide relief from the CTR-based permit limits as anticipated by EPA. It should be noted that the actual language of the rule itself does not mention any of the methods of regulatory relief. Therefore, this analysis will be based solely upon the language contained in the Preamble to the CTR.

#### Water Quality Standard Variances/ Designated Use Modifications

The Preamble to the CTR discusses variances as a form of regulatory relief that might be pursued by dischargers. See 62 Fed.Reg. 42,185-6. The Preamble provides that States may adopt a statewide policy (or Regional Boards may adopt Basin-wide policies) to allow water quality standard variances for individual dischargers. The variance policy would allow the State or Regional Board to grant a variance to an individual permittee from a water quality standard,(\*5) which is the basis of a water quality-based effluent limitation in a permit. However, there are some serious restrictions placed on the use of variances. The following lays out these restrictions:

\* Variances are not allowed for new or recommending dischargers.

\* Variances are discharger and pollutant specific. In other words, the water quality standard variance applies only to the permittee requesting the variance and only to the pollutant or pollutants specified in the variance.

\* Once a variance has been approved by the State, it must be submitted to EPA for approval.

- EPA will only approve variances if consistent with the substantive requirements set out at 40 CFR Part 131 for removing a designated use.(\*6)

- EPA will only approve state variances if specific provisions are included.(\*7) - EPA would have to undertake a federal rulemaking to make the necessary changes to this rule to allow for State-approved variances. The Preamble explains this restriction as follows:

EPA, however, cautions California and the public that promulgation of this federal rule, removes most of the flexibility available to the State for modifying its standards on a discharger-specific or stream-specific basis. For example, variances and site-specific criteria development are actions

sometimes adopted by states. These are optional policies under terms of the federal water quality standards regulation. Except for the water-effect ratio procedure for certain metals, EPA has not incorporated either optional policy, in general, in this proposed rulemaking, that is, EPA has not generally authorized State modifications of federal water quality standards. Each of these types of modifications will, in general, require federal rulemaking on a case by case basis to change the federal rule. Because of the time consuming nature of reviewing such requests, limited federal resources, and the need for the Agency to move into other priority program areas in establishing environmental controls, EPA alerts California and the public that a prompt Agency response is unlikely. The best course of action, if such provisions are desired, is for the State to adopt its own standards and take advantage, if it so chooses, of the flexibility offered by these optional provisions. (\*8)

Because of all of the restrictions placed on their use, variances are not really a viable option for regulatory relief. The only way for variances to be a viable option would be for EPA to incorporate a variance policy into the proposed rule that would authorize State modifications of federal water quality standards.

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(\*1) This cost trigger is \$200 per toxic pounds-equivalent for a facility under the low-end scenario, and \$500 per toxic pounds-equivalent for a category of dischargers under the high-end scenario. See EA at pg. 4.

(\*2) In addition, pollutant load reductions were not calculated or credited for any pollutant for which an alternative regulatory approach was pursued. Id.

(\*4) EPA, Guidance for Water Quality-based Decisions: The TMDL Process, EPA Doc. No. 440/4-91-001 at pg. 20 (April 1991) (emphasis added).

(\*5) The variance would allow the permittee to achieve reasonable progress towards attaining a specific water quality-based effluent limitation, without violating CWA section 402(a)(1), which requires that NPDES permittees meet all applicable water quality standards, See 62 Fed.Reg. 42185-6. A variance does not effect the corresponding water quality for the water body receiving the discharge. Variances are designed to preserve the underlying water quality standard over the long term, while providing flexibility to individual dischargers in complying with permit limits based on the standards. When a variance is granted, the discharger is assured compliance during the term of a variance, as long as all variance conditions are met. Id.

(\*6) Specifically, the State's policy must require the inclusion of a demonstration that a water quality standard is unattainable, based on one or more of the following grounds:

1. Normally occurring pollutant concentrations prevent the attainment of the water quality standard;
2. Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the water quality standard, unless these conditions may be compensated for by the discharge of sufficient volume of effluent to enable the standard to be met without violating State water conservation requirements;
3. Human-caused conditions or sources of pollution prevent the attainment of the water quality standard and cannot be remedied, or would cause more environmental damage to correct than to leave in place;
4. Dams, diversions or other types of hydrologic modifications preclude the attainment of a water quality standard, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the standard;
5. Physical conditions related to the natural features of the water body, such as the lack of a proper substrate cover, flow, depth, pools, riffles, and the like, unrelated to chemical water quality, preclude attainment of the

water quality standard; or 6. Controls more stringent than those required by CWA sections 301(b) and 306 would result in substantial and widespread economic and social impact.

(\*7) The required provisions are as follows: 1. The State will include each individual variance as part of its water quality standard or water quality plan; 2. The variance will include documentation that treatment more advanced than that required by CWA section 301(b) and 306 has been carefully considered, and that alternative effluent control strategies have been evaluated; 3. The underlying, more stringent criterion will be maintained and will be binding on all other discharges; 4. The discharger who will be given a variance for one particular constituent will be required to meet the applicable criteria for other constituents; 5. The variance will be granted for a specific period of time and must be rejustified upon expiration, but at least every three years; 6. Reasonable progress will be made towards meeting the underlying standards; 7. The variance will not likely jeopardize the continued existence of any threatened or endangered species listed under Section 4 of the Endangered Species Act or result in the destruction or adverse modification of such species' critical habitat; and 8. The variance will be subjected to public notice, comment and hearing. See CWA section 303(c)(1) and 40 CFR 131.20. The public notice should contain a clear description of the impact of the variance upon achieving the water quality standard in the water body.

(\*8) See CTR Preamble at pg. 42185-6. Further guidance on variance policies is provided in EPAs 1994 Water Quality Standards Handbook, Chapters 2 and 5 (EPA 823-B-94-005a, August 1994).

Response to: CTR-054-044

See response to CTR-004-007.

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Comment ID: CTR-057-010b  
Comment Author: City of Los Angeles  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-07 Variances  
References:  
Attachments? N  
CROSS REFERENCES K-01; C-24

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Comment: Implementation

Although the proposed Rule discusses implementation issues such as TMDLs, variances, SSOs, and interim permits, it lacks evidence of support for any of these provisions. We believe that this will have the effect of reducing the State's confidence or perceived authority in granting any of these provisions to individual POTWs. For example, Page 42186 of the CTR lists six criteria that must be used by the State to determine the non-attainability of a water quality standard; we are doubtful that any of these criteria would be strictly applicable to our facilities with respect to lindane and DDT. We believe CTR variance criteria should include economic considerations for specific discharger implementation efforts. Unless the EPA provides more support for these provisions, we fear that the State will either not grant us a legitimate variance or will waiver in its commitment to act at all.

Response to: CTR-057-010b

See response to CTR-004-007.

Furthermore, the six criteria that are used as a basis for a variance does include economic considerations (see preamble of the proposed rule 62 FR 42186, August 5, 1997 and the Water Quality Standards Regulation at 131.10(g)). The requirements for issuing a variance are the same as those for downgrading or removal of a designed use. Discussions on alternative justifications for variances are outside the scope of today's rule.

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Comment ID: CTR-090-020

Comment Author: C&C of SF, Public Util. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-07 Variances

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

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Comment: Variances This procedure described in the preamble is unduly cumbersome and unrealistic. Particular problems we see with this approach are:

Time limit - The proposed policy requires that variances be granted for not more than three years, after which they must be re-justified. This policy is not reasonable when applied to a major municipal wastewater construction program which may have a variance as an integral part of the facility planning process. Does it make sense to reanalyze a fundamental design premise every three years for a wastewater system that may have cost hundreds of millions and taken decades to construct. Although review of facility plans is appropriate in some cases, following the laborious process every three years as described in this proposal would have no benefit since there is no feasible way to instantly change a completed wastewater system.

Regulatory justification - EPA has modeled the variance procedure on the portion of the regulations established to provide for removal of a designated use. What is left out of the preamble is a justification for using this model for the additional requirements added to the procedure. Why, in the first place does EPA need to establish a variance procedure. The Clean Water Act requires the state have standards which 'shall be such as to protect the public health and welfare, enhance the quality of water and serve the purposes of this chapter.' Each Basin Plan in California already has a variance policy which meet this statutory requirement and which is currently in effect. We propose that there is no need for the variance procedure in this rule-making.

Conflict with the fundamental premise of state water quality standards The major problem with the proposed variance procedure is that it is in conflict with the underlying premise upon which the standards were originally developed. The standards in California were developed to be applied to permanent dischargers such as POTWs and industrial discharges. The state explicitly recognized that the standards were inappropriate for intermittent discharges such as combined sewer overflows. Because the standards were not appropriate for CSOs, the state intended that the variance procedure be used. Taking as an

example, the Ocean Plan standards applied to the first San Francisco permits, the SWRCB made the following statement:

... it is patently clear that it was realized it inappropriate to apply Ocean Plan standards strictly to combined waste and stormwater discharges. The record indicates further, that rather than address this problem in the 1978 Ocean Plan amendments, directly, it was decided to deal with such problems on a case-by-case basis via the exception mechanism. [Order No. WQ 79-16].

The same argument applies to stormwater discharges. Since most such discharges will violate the current standards during at least some period during the discharge, it is obvious that the intent of those developing the standards was not to apply them to intermittent discharges in the same manner as they are applied to permanent discharges. Until the standards are changed, the variance process is the only available mechanism to reconcile the standards with these discharges.

In order to minimize paperwork, and to provide more meaningful public participation, we suggest that all remaining variances be handled as part of the Basin Plan process ,(by watershed and discharger class) rather than on an individual NPDES permit basis.

We further request that all existing variances be incorporated into the CTR by reference. This could be handled by listing the currently applicable Basin Plans and adding language to the effect that "...all variances issued pursuant to these plans are incorporated into the CTR by reference." San Francisco has variances and/or site-specific discharge standards associated with its wet-weather control facilities (RWQCB(2) Order 94-149 as amended by Order 96-117, Southeast WPCP, and Order 95-039, Northpoint and Southeast Sewerage Zones).

Response to: CTR-090-020

EPA disagrees that a three year time limit for variances is unreasonable. The variance represents a change in the applicable water quality criteria. Variances are optional components of a state's water quality standards. As noted in the preamble, EPA's policy on variances is that variance are granted for a specific period of time and must be rejustified upon expiration but at least every three years. The three year rejustification is derived from the triennial review requirements of CWA Section 303. Section 303 requires States to hold hearings for the purpose of reviewing and, if necessary, revising their water quality standards.

EPA notes that the Agency is not including or establishing a variance procedure for California in this rule. Rather, the preamble of the rule explains minimum requirements for State adopted variance provisions. As previously noted, such provisions are optional policies that states in general adopt to assist in the implementation of their NPDES permit program. See response to CTR-004-007.

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Comment ID: CTR-092-008

Comment Author: City of San Jose, California

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: G-07 Variances

References: Letter CTR-092 incorporates by reference letter CTR-035

Attachments? Y  
CROSS REFERENCES

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Comment: Variances

The City strongly supports the application of variances as an important regulatory procedure to assist the State in implementing its water quality standards program. The City further encourages the State to formally adopt a variance provision that allows variances for individual dischargers. This procedure would provide a valuable tool to allow a permittee to achieve reasonable progress toward attainment of a water quality based effluent limitation without violating applicable water quality standards.

Response to: CTR-092-008

EPA takes no position as to whether the State adopts a variance provisions in its water quality standards.

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Comment ID: CTRH-001-022a  
Comment Author: Julio Guerra  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: City of Merced  
Document Date: 09/17/97  
Subject Matter Code: G-07 Variances  
References:  
Attachments? N  
CROSS REFERENCES G-05

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Comment: There are good things in here regarding the variances and the recognition of the existence of ephemeral streams. And the naturally occurring pollution, you know, has to be taken into account when it actually applies to water quality standards.

I would observe in that regard that the NPDES program recognizes that intake credits may sometimes be appropriately applied to adjust effluent limits. But in the NPDES language it states that that only can occur when you discharge into the same water body that you take the water from.

In our case, of course, we use groundwater. And, as an example, it may contain arsenic. And the arsenic isn't really removed from the water before it is discharged to surface water. We don't fit the mold of being authorized those intake credits, because we're not discharging into the same water body that we draw water from.

Response to: CTRH-001-022a

EPA acknowledges the commenter's support for the discussions on variances that are contained in the preamble of the rule. See response to CTR-004-007.

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Comment ID: CTRH-001-057d  
Comment Author: Dave Tucker

Document Type: Public Hearing  
State of Origin: CA  
Represented Org: San Jose Env. Serv. Dept.  
Document Date: 09/17/97  
Subject Matter Code: G-07 Variances

References:

Attachments? N

CROSS REFERENCES K-03; C-24a; G-04; G-09; C-22; G-05

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Comment: Some of the flexibility that the City highly supports is the water effect ratio investigations to adjust statewide criteria to site-specific conditions; the interim limits concept while special studies are being conducted by the dischargers and other entities; a variance procedure to allow dischargers to achieve progress toward effluent limit attainment without violating applicable water quality standards; dissolved criteria for metals to reflect the toxicological conditions; translators to adjust dissolved criteria to total permit limitations; trading programs to attain and maintain water quality; and a mixing zone that reflects true instream pollutant conditions and that protects beneficial uses.

Response to: CTRH-001-057d

EPA acknowledges the commenter's support for variances, However, EPA is not including a variance procedure in today's rule. See response to CTR-004-007.

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Subject Matter Code: G-08 State Policy

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Comment ID: CTRE-004-001b

Comment Author: Victor Valley Wastewater Auth.

Document Type:

State of Origin: CA

Represented Org:

Document Date: 09/11/97

Subject Matter Code: G-08 State Policy

References:

Attachments? N

**CROSS REFERENCES B**

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Comment: The Victor Valley Wastewater Reclamation Authority (VWVRA) respectfully requests that the comment period deadline be extended for the California Toxics Rule (CTR). The current comment period deadline is September 26, 1997. We request that the latter deadline be extended for at least 60 days so that we can fully evaluate the potential impact on VWVRA

The reasons for our request are as follows:

1. VWVRA discharges to the Mojave River, which is considered by the Lahontan RWQCB as an impaired waterway. Although portions of the Mojave exhibit year-round surface flow, the River directly above VWVRA does not exhibit consistent surface flow. However, the Lahontan RWQCB considers the Mojave an underflow stream, which is often considered as surface flow. Whether an underflow stream would be considered under the CTR for receiving stream dilution has yet to be determined;
2. It is difficult if not impossible to evaluate the impacts of a proposed regulation without considering the mechanism by which it will be implemented. The SWRCB is not expected to release the implementation plan until September 12, 1997. Therefore, VWVRA takes exception to the imposition of a regulation with an undefined implementation plan;
3. Because of the latter unknowns and the complexity of the regulation V has not had sufficient time to evaluate the potential economic impacts, if any, of the proposed regulation.

Response to: CTRE-004-001b

See response to CTR-009-001.

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Subject Matter Code: G-09 Translators

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Comment ID: CTR-004-004d  
Comment Author: South Bayside System Authority  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: G-09 Translators  
References:  
Attachments? N  
CROSS REFERENCES G-05  
C-24a  
C-22

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Comment: Despite the problems addressed above there are provisions of the CTR that SBSA supports, including:

- \* EPA's policies and guidance regarding the use of mixing zones and dilution
- \* Use of water effects ratios (WERs) for determining site specific criteria
- \* Inclusion of metals criteria expressed as dissolved rather than total recoverable
- \* Allowing permit writers the use of any of the methods in EPA's guidance document on the use of translators

Response to: CTR-004-004d

EPA appreciates the commenter's support for its discussion of metals translators in the preamble of the proposed CTR.

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Comment ID: CTR-005-003d  
Comment Author: Novato Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/23/97  
Subject Matter Code: G-09 Translators  
References:  
Attachments? Y  
CROSS REFERENCES C-22  
C-24a  
C-01a  
G-05  
G-04

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Comment: 2. The following provisions of the rule are supported: (1) adoption of metals criteria as dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury; and (4) the Preamble discussions regarding metals translators, mixing zones, and interim permit limits.

Response to: CTR-005-003d

See response to CTR-004-004d.

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Comment ID: CTR-027-012d

Comment Author: California SWQTF

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-09 Translators

References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040

Attachments? N

CROSS REFERENCES C-22

C-24

C-01a

G-05

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Comment: PROVISIONS OF THE PROPOSED RULE WE SUPPORT

Notwithstanding the above comments, we believe there are certain elements of the proposed rule with respect to establishing water quality standards that we can support:

- \* Metal criteria expressed in the dissolved fraction rather than expressed in the total recoverable fraction.
- \* Metal criteria that are developed as a function of the water-effect-ratio (WER).
- \* The current proposed human health criterion for mercury.
- \* The current preamble language regarding metal translators and mixing zones.

We believe the above provisions provide a more acceptable, scientific approach to the water quality-based pollution control approach. We recommend these provisions of the current rule remain as proposed.

Response to: CTR-027-012d

See response to CTR-004-004d.

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Comment ID: CTR-030-008

Comment Author: Utility Water Act Group

Document Type: Trade Org./Assoc.  
State of Origin: DC  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-09 Translators  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: D. EPA's Discussion of the Chemical Translator Guidance Should be Clarified

EPA appropriately includes its recently completed Chemical Translator Guidance (The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit From a Dissolved Criterion (EPA 823-B-96-007, June 1996) (Translator Guidance) in the rulemaking record and notes the importance of having mechanisms to "translate" between dissolved metal in ambient waters and total recoverable metal in effluent. 62 Fed. Reg. at 42,173, col. 2. But EPA's discussion of only certain provisions of the Translator Guidance creates an implication that only those portions of the Translator Guidance are applicable to this rulemaking. For example, the proposal requires use of conversion factors for converting a metal criterion expressed as the total recoverable fraction in the water column to a criterion expressed as the dissolved criterion in the water column. The Translator Guidance provides greater flexibility; it states: "[A] translator is required to derive a total recoverable permit limit from a dissolved criterion" but caveats this statement with the following footnote:

As a reasonable worst case, however, it may be assumed that metal in the receiving environment would be biologically available to the same extent as during toxicity testing; and the conversion factors may be used as translators if a site-specific translator is not developed. In that case, the water quality criterion that already has been multiplied by the conversion factor would be divided by the conversion factor.

Translator Guidance, p. 5, n. 6.

Therefore, to avoid any implication that only part of the Translator Guidance is applicable to this rulemaking, UWAG requests that EPA make general reference to the translator Guidance and approve, without reservation, its entire contents.

Response to: CTR-030-008

EPA clarifies that the State in implementing its policy on translators may consider the entire contents of the guidance. EPA did not intend to imply that only a portion of the guidance could be used by the State to implement CTR criteria.

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Comment ID: CTR-032-002c  
Comment Author: Las Gallinas Val. Sanitary Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-09 Translators  
References: Letter CTR-032 incorporates by reference letter CTR-035

Attachments? N  
CROSS REFERENCES G-01  
C-22  
C-24a  
C-24  
K  
G-04  
G-05  
G-02

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Comment: Regulatory Flexibility and Relief

The District supports EPA's use of "sound science" and current data in developing the proposed criteria in the California Toxics Rule (CTR). The District strongly supports language in the Preamble that references and endorses recommendations of the State Task Forces including use in permitting of:

\* reasonable potential analyses \* dissolved metals criteria \* translators \* water effects ratios \* site specific objectives \* innovative TMDL processes such as effluent trading \* performance based interim limits \* chronic and acute mixing zones, and \* compliance schedules in NPDES permits.

Response to: CTR-032-002c

See response to CTR-004-004d.

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Comment ID: CTR-035-002f  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-09 Translators  
References:  
Attachments? N  
CROSS REFERENCES C-22  
C-01a  
C-08a  
G-05  
G-04  
K-01  
C-24a

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Comment: Second, we commend EPA for its inclusion in the CTR of several innovative and flexible regulatory approaches, such as metals criteria expressed as dissolved rather than total recoverable concentrations, and the revised human health criterion for mercury. In addition, in light of the issues surrounding the human health criteria for arsenic we support EPA's decision not to promulgate human health criteria at this time. With respect to implementation issues discussed in the Preamble, we support EPA's policies and guidance regarding the application of mixing zones and dilution credits. the use of interim permit limits while Total Maximum Daily Loads (TMDLs) and other special studies are being

performed, and EPA's guidance to Regional Water Quality Control Boards (RWQCBs) that they may use any of the methods described in EPA's guidance document on the use of translators. We also support EPA's proposal to create a rebuttable presumption for Water Effects Ratios (WERs), allowing the RWQCBs and SWRCB to develop site-specific WERs that can be approved by EPA during the NPDES permit approval process. We believe that this approach will help facilitate the development of appropriate site-specific adjustments for metals criteria.

Response to: CTR-035-002f

See response to CTR-004-004d.

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Comment ID: CTR-035-018

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-09 Translators

References:

Attachments? N

CROSS REFERENCES

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Comment: p. 42173 -- Translators for Dissolved to Total Recoverable Metals Limits We support EPA's guidance to RWQCBs that they may use any of the methods described in EPA's guidance document on the use of translators (U.S. EPA, 1996b). We believe that the development of site-specific translators should be allowed in those cases where a discharger is willing to conduct the studies in accordance with EPA-approved methods. As such, we believe the recommendation that the State "adopt a statewide policy on the use of translators so that the most appropriate method or methods are used consistently within California" is unnecessary, and this recommendation should be deleted from the Preamble.

Response to: CTR-035-018

EPA believes its recommendation that the State "adopt a statewide policy on the use of translators so that the most appropriate method or methods are used within California" is useful. This recommendation does not preclude the State from allowing dischargers to conduct site-specific translator studies in accordance with EPA methods if the State so chooses within its discretion to write NPDES permits. In fact, in its proposed implementation policy, the State's expressed its acceptance of site-specific translator methods.

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Comment ID: CTR-038-002f

Comment Author: Sonoma County Water Agency

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: G-09 Translators

References:

Attachments? Y  
CROSS REFERENCES C-22  
C-24a  
C-01a  
G-04  
G-05

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Comment: 2. The following provisions of the rule are supported (1) adoption of metals criteria as dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury; and (4) the Preamble discussions regarding metals translators, mixing zones, and interim permit limits.

Response to: CTR-038-002f

See response to CTR-004-004d.

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Comment ID: CTR-040-002c  
Comment Author: County of Sacramento Water Div  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-09 Translators  
References: Letter CTR-040 incorporates by reference letter CTR-027  
Attachments? Y  
CROSS REFERENCES C-24a  
C-01a  
G-05

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Comment: PROVISIONS SUPPORTED

We support a number of provisions of the Rule, including: (1) adoption of metals criteria as dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury- and (4) the Preamble discussions regarding metals translators and mixing zones. These provisions provide a firmer scientific base for the water quality-based approach to pollution control and are a marked improvement over the old Inland Surface Waters Plan. We would urge EPA to retain these provisions in the final Rule.

Response to: CTR-040-002c

See response to CTR-004-004d.

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Comment ID: CTR-041-003a  
Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-09 Translators  
References:  
Attachments? N  
CROSS REFERENCES C-24a

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Comment: Second, the District supports with reservations EPA's proposals on two subjects directly related to dissolved metals criteria, i.e. the proposed guidance on both (1) translators to convert from dissolved metals criteria to total recoverable permit limits and (2) the water-effect ratio (WER) as the method to compare the bioavailability and toxicity of a pollutant in receiving waters and in laboratory waters. Both of these two proposals must be implemented on a site-specific basis using local data, not statewide or watershed-wide data. Translators, however, should be developed whenever a discharger is willing to conduct studies in accordance with EPA-approved methods. The proposed procedure for a default value of 1.0 for a WER should mean that when a site-specific WER is to be determined, an additional EPA rulemaking process would not be required. Instead, this rule should pre-authorize the use of correctly applied WERs that are approved by the State.

Response to: CTR-041-003a

EPA agrees that translators derived using site-specific methods are generally preferable to a generic method using statewide or regional data. However, the State is the lead authority with respect to NPDES permit implementation and may choose any method that is consistent with the Clean Water Act. In its proposed implementation policy, the State expressed its acceptance of site-specific translator methods.

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Comment ID: CTR-043-002f  
Comment Author: City of Vacaville  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-09 Translators  
References:  
Attachments? Y  
CROSS REFERENCES C-22  
C-24a  
G-01a  
G-04  
G-05

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Comment: 2. The following provisions of the rule are supported: (1) adoption of metals criteria as dissolved concentrations; (2) expression of the metals criteria as a function of the water-effect ratio; (3) adoption of the proposed new human health criterion for mercury; and (4) the Preamble discussions regarding metals, translators, mixing zones and interim permit limits.

Response to: CTR-043-002f

See response to CTR-004-004d.

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Comment ID: CTR-044-003d  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-09 Translators  
References:  
Attachments? Y  
CROSS REFERENCES C-22  
C-24a  
C-01a  
G-05  
G-04

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Comment: We have reviewed the proposed CTR and offer the following comments:

2. The following provisions of the rule are supported:
  - (1) adoption of metals criteria as dissolved concentrations;
  - (2) expression of the metals criteria as a function of the water-effect ratio;
  - (3) adoption of the proposed new human health criteria for mercury; and
  - (4) the Preamble discussions regarding metals translators, mixing zones, and interim permit limits.

Were the old human health criterion for mercury (0.012 ug/l) to be adopted, the City would have to remove its discharge from Tule Canal and go to land disposal. The capital cost to do this would be \$22.1 million and the total present worth cost would be \$23.1 million (see Exhibit B, Required Capital improvements and Costs for Beryllium and Mercury). This would translate to an annual cost of \$3.1 million per year (at 7% over 10 years) and would require that monthly sewer service charges be increased by more than 100%.

Response to: CTR-044-003d

See response to CTR-004-004d.

With respect to the comment about the economic impact of the old criterion for mercury of 0.012 ug/l, EPA has not evaluated these costs since the CTR does not promulgate a mercury criteria of 0.012 ug/l.

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Comment ID: CTR-052-002c  
Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority  
State of Origin: SC  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-09 Translators  
References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054  
Attachments? Y  
CROSS REFERENCES C-22  
C-01a  
G-05  
G-04

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Comment: EPA will recall the State Water Quality Plans Task Forces that included all stakeholders, including EPA. The Authority appreciates the incorporation of many of the consensus recommendations from the Task Forces into the CTR, including:

- \* Adoption of the metals criteria as dissolved concentrations and the expression of the criteria as a function of the water-effect ratio
- \* Adoption of the proposed new human health criterion for mercury
- \* Preamble discussions regarding metals translators, mixing zones, and interim permit limits

Response to: CTR-052-002c

See response to CTR-004-004d.

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Comment ID: CTR-054-004a  
Comment Author: Bay Area Dischargers Assoc.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-09 Translators  
References:  
Attachments? Y  
CROSS REFERENCES G-05  
G-04

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Comment: BADA supports the Preamble discussions regarding metals translators, mixing zones, and interim permit limits. Translators and mixing zones will provide a better scientific basis for the application of the criteria and will go a long way toward protecting against the imposition of unnecessary or unreasonable controls. Interim permit limits will allow dischargers faced with potential attainability problems to pursue reasonable actions, such as pollution prevention, treatment plant optimization, pollutant trading, TMDLS, etc. prior to being faced with final effluent limitations. BADA endorses the recommendation of the State Plan Public Task Forces on the issue of interim limits.

Response to: CTR-054-004a

See response to CTR-004-004d.

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Comment ID: CTR-056-008

Comment Author: East Bay Municipal Util. Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: G-09 Translators

References: Letter CTR-056 incorporates by reference letter CTR-054

Attachments? N

CROSS REFERENCES

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Comment: Second, EBMUD would like to express to EPA its support for inclusion of:

\* EPA's guidance to Regional Water Quality Control Boards stating that they may use any of the methods described in EPA's guidance document on the use of translators ["The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion," EPA 823-B-96-007, June 1996],

Response to: CTR-056-008

See response to CTR-004-004d.

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Comment ID: CTR-060-009

Comment Author: San Diego Gas and Electric

Document Type: Electric Utility

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: G-09 Translators

References:

Attachments? N

CROSS REFERENCES

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Comment: PROVISIONS SDG&E DOES NOT SUPPORT

As described in the following comments SDG&E does not support the following provisions:

EPA's chemical translator guidance should be clarified

EPA describes in the preamble (see 62 Fed. Reg. at 42,173, Col. 2) the importance of permitting authorities of having the ability to translate between dissolved metals in ambient waters and total recoverable metal in effluent and refers to its Chemical Translator Guidance document "The Metals

Translator. Guidance for Calculating a Total Recoverable Permit Limit From a Dissolved Criterion"(EPA 823-B-96-007, June 1996) (the "Translator Guidance"). However, the preamble describes only certain provisions of the translator guidance document, implying that other portions may not be applicable to California. EPA should clarify the translator guidance document is applicable in its entirety to California.

Additionally, the preamble should specifically identify, as the Translator Guidance indicates in footnote No. 6 on Page 5, that, in the absence of a site-specific translator, the conversion factor should be used as the translator.

Response to: CTR-060-009

See response to CTR-030-008.

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Comment ID: CTR-066-006  
Comment Author: Delta Diablo Sanitation Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-09 Translators  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Our preliminary review of the CTR finds several areas that we believe are positive changes and will enhance the rulemaking. The areas that we support as now written are as follows:

\* The guidance to RWQCBs that they may use any of the methods described in EPA's guidance document on the use of translators.

Response to: CTR-066-006

See response to CTR-004-004d.

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Comment ID: CTR-081-002e  
Comment Author: West County Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: G-09 Translators  
References:  
Attachments? N  
CROSS REFERENCES G-04  
C-24a  
G-02

C-22  
C-01a  
C-08a  
G-05

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Comment: \* There are many aspects of the CTR that we support. These include: a) Application of interim limits while special studies are performed. b) Approach to water effect ratios for determining site specific criteria. c) Inclusion of provision for compliance schedules. However, this should be modified to allow inclusion of compliance schedules of up to 15 years in permits if deemed appropriate by Regional Boards. d) Metals criteria expressed as dissolved rather than total recoverable concentrations. e) EPA's guidance to Regional Boards regarding use of translators. f) EPA's proposal to create a rebuttal presumption for Water Effects Ratios, g) Revised human health criteria for mercury h) Decision to not promulgate human health criteria at this time in light of issues surrounding health criteria for arsenic. I) EPA's policies regarding application of mixing zones and dilution credits.

Response to: CTR-081-002e

See response to CTR-004-004d.

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Comment ID: CTR-085-007  
Comment Author: Camarillo Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: G-09 Translators  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: On several aspects of the California Toxics Rule, the District is in agreement with CASA and SCAP comments:

\* The EPA's guidance to RWQCB's that they may use any of the methods described in the EPA's guidance document on the use of translators.

Response to: CTR-085-007

See response to CTR-004-004d.

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Comment ID: CTR-086-004c  
Comment Author: EOA, Inc.  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org: California Dent

Document Date: 09/26/97

Subject Matter Code: G-09 Translators

References: Letter CTR-086 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES G-01

C-22

C-24a

C-24

K-03

G-04

G-05

G-02

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Comment: Regulatory Flexibility and Relief

CDA supports language in the CTR Preamble that references and endorses recommendations of the State Task Forces including in part the use of.

\* reasonable potential analyses \* dissolved metals criteria \* translators \* water effects ratios \* site specific objectives \* innovative TMDL processes such as effluent trading \* performance based interim limits \* chronic and acute mixing zones, and \* compliance schedules in NPDES permits.

Response to: CTR-086-004c

See response to CTR-004-004d.

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Comment ID: CTR-089-001g

Comment Author: Las Virgenes Mncpl Water Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: G-09 Translators

References:

Attachments? N

CROSS REFERENCES C-22

C-01a

C-08a

G-05

K-01

G-02

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Comment: The draft California Toxics Rule (CTR) is clearly the product of substantial effort by USEPA staff, and we applaud this effort and its intent. On several issues of concern to public utilities, the CTR strikes a good balance between the need to promulgate standards and the need to base those standards on sound science. Examples include the use of dissolved concentrations rather than the total recoverable concentrations for metals, the deferral of human health criteria for arsenic until adequate information is available, and the revision of the human health criterion for mercury. We are also pleased with the

CTR's guidance and flexibility, on mixing zones and dilution credits, total maximum daily loads (TMDLs), compliance schedules, and translators.

Response to: CTR-089-001g

See response to CTR-004-004d.

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Comment ID: CTR-092-003

Comment Author: City of San Jose, California

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: G-09 Translators

References: Letter CTR-092 incorporates by reference letter CTR-035

Attachments? Y

**CROSS REFERENCES**

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Comment: Translators to Convert from Dissolved Metals Criteria to Total Recoverable-Permit Limits

The City supports EPA's discussion of the metals translation process contained in "The Metals Translator, Guidance, for Calculation of a Total Recoverable Limit From a Dissolved Criterion" (EPA 823-B-96-007, June 1996). The City supports the use of EPA's translator methods by Regional Water Quality Control Boards to develop water quality-based permit limits. The City also supports EPA's encouragement for the development of a statewide policy on the use of translators and for the consistency of their use statewide.

Response to: CTR-092-003

See response to CTR-004-004d.

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Comment ID: CTRH-001-045b

Comment Author: Charles Batts

Document Type: Public Hearing

State of Origin: CA

Represented Org: Bay Area Dischargers Assc

Document Date: 09/17/97

Subject Matter Code: G-09 Translators

References:

Attachments? N

**CROSS REFERENCES B**

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Comment: We would ask the EPA to extend the comment period to encourage further comments.

We would encourage you to look at actual agencies' calculations, that all translators be reviewed to ensure accuracy, even if special studies are required by individual dischargers.

Response to: CTRH-001-045b

EPA will review translator methods used by the State as a part of EPA's usual NPDES permit review process.

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Comment ID: CTRH-001-049  
Comment Author: Michael Lozeau  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: S.F. Bay/Delta Keeper  
Document Date: 09/17/97  
Subject Matter Code: G-09 Translators  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: The notion of translators is a scary one to me in terms of what that means for any given permit process. You're talking about a very complicated permit process at that point, and I don't expect certainly the dischargers to pass up that opportunity. I would expect to see a very complicated permit process for every single one of the criteria that you have proposed here, unless you include a total recoverable number.

Response to: CTRH-001-049

EPA believes translators for metals is an appropriate tool for converting from dissolved metals criteria to total recoverable permit limits. Dissolved criteria are applicable only to a subset of priority toxic pollutants and would not be applicable to all criteria in the final rule. While the use of translators may make the permit process somewhat more complex, in some cases, EPA believes this extra effort will be worthwhile and will allow the State to develop the most appropriate effluent limits for metals discharges.

EPA's basis for using dissolved metals is described in the preamble to the proposed CTR at 62 Fed. Reg. 42171 (Aug. 5, 1997), the preamble to the final rule, and in the administrative record to the final rule (PLACEHOLDER FOR DOCUMENT TITLE).

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Comment ID: CTRH-001-057e  
Comment Author: Dave Tucker  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: San Jose Env. Serv. Dept.  
Document Date: 09/17/97  
Subject Matter Code: G-09 Translators  
References:  
Attachments? N  
CROSS REFERENCES K-03  
C-24a  
G-04  
G-07

C-22  
G-05

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Comment: Some of the flexibility that the City highly supports is the water effect ratio investigations to adjust statewide criteria to site-specific conditions; the interim limits concept while special studies are being conducted by the dischargers and other entities; a variance procedure to allow dischargers to achieve progress toward effluent limit attainment without violating applicable water quality standards; dissolved criteria for metals to reflect the toxicological conditions; translators to adjust dissolved criteria to total permit limitations; trading programs to attain and maintain water quality; and a mixing zone that reflects true instream pollutant conditions and that protects beneficial uses.

Response to: CTRH-001-057e

See response to CTR-004-004d.

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Subject Matter Code: G-10 Pretreatment

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Comment ID: CTR-096-004a  
Comment Author: City of Modesto  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: G-10 Pretreatment  
References:  
Attachments? N  
CROSS REFERENCES R

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Comment: Thank you for the opportunity to comment on the proposed California Toxics Rule. The City's comments are related to five main concepts:

4. The environmental consequences of the necessary treatment facilities and changes in operating practices to meet these discharge standards is very significant and has not been addressed in promulgating the proposed rule.

Specifically, the City submits the following comments:

F. A comparison of the Water Quality Standards (WQS) used by its City during the Local Limits Study and the proposed WQS is shown in Table 1. There is a little variation in limits for cadmium, copper, nickel, and zinc as these values are dependent on receiving stream hardness. The values shown in Table I for the City were developed using a hardness of 170 mg/l as CaCO<sub>3</sub> while the standards from the CTR are based on 100 mg/l as CaCO<sub>3</sub>. The WQS from the CTR are actually expressed as dissolved fractions. A factor of 1 has been used to convert from dissolved to total fractions for the comparison to take place.

Table 1

Comparison of Water Quality Standards

	City Report		WQS		1996	1997	-----	
	Chronic	Acute	Chronic	Acute				
Arsenic, ppb	190.0	360.0	150.0	340.0	Cadmium, ppb	1.7	7.1	2.2
4.3 Chromium, ppb	10.0	15.0	11.0	16.0	Copper, ppb	19.0	29.0	9.0
13.0 Nickel, ppb	250.0	2200.0	52.0	470.0	Zinc, ppb	170.0	180.0	
120.0 Mercury, ppb	120.0	N/A	2.1	.77	1.4			

Table 1 indicates that the City's Local Limits for arsenic, cadmium, chromium, and zinc would have little difficulty meeting the CTR. However, limits for copper, nickel and mercury may be drastically impacted. This impact in developing a stricter local limit may result in an economic hardship to many small business enterprises that currently do metal plating. These businesses may be forced to close down due to the implementation of these limits. Modesto experiences a chronic unemployment rate above 12%, and economic development is critical to this community.

Response to: CTR-096-004a

The commenter has not provided enough information to enable EPA to respond to the assertion that metal plating businesses in Modesto may endure economic hardship and be forced to close down due to implementation of the CTR.

The commenter's derivation of 1997 WQS in Table 1 appears to be based on the CTR criteria. This is a "worst case scenario" since it does not address possible adjustments (all allowable for implementation of the CTR) for dilution, hardness, and translation from dissolved criteria to total recoverable effluent limits, all of which could result in an effluent limit for the POTW that may be less stringent than the levels indicated in Table 1. In addition, the commenter did not provide information on how local limits for indirect dischargers (such as metal plating businesses) would be calculated nor any data on historical discharge levels of pollutants from metal plating businesses. Therefore, EPA cannot come to any conclusion whether the implementation of CTR water quality criteria could have an adverse economic impact on Modesto's metal plating businesses or force the businesses to close.

EPA notes that the comment regarding the stringency of proposed aquatic life mercury criteria is no longer relevant since EPA is not promulgating a final aquatic life mercury criteria in the final CTR.

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Subject Matter Code: G-11 Intake Credits

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Comment ID: CTR-084-001

Comment Author: City of Redding

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: G-11 Intake Credits

References:

Attachments? N

CROSS REFERENCES

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Comment: ISSUES OF CONCERN

F. 3. Implementation, 62 FR 42185. Total Maximum Daily Load (TMDL's) should not be required if water quality criteria for a water body segment are exceeded due to discharges from upstream dischargers who operate with federal waivers or variances to water quality standards.

F. 3. Implementation, 62 FR 42184. The proposed California Toxics Rule (CTR) does not specifically afford municipal credits for pollutants in the intake water supply. The City of Redding is concerned about how the proposed CTR will be implemented with regard to upstream acid mine dischargers who are operating with federal waivers to water quality standards. If credits for pollutants in the intake water supply were intended, they should be specifically included in the current proposal under F. 3. Implementation, to allow public comment at this time.

## BACKGROUND

Previous Task Force and Sacramento River Watershed Program discussions and recommendations to the EPA have focused on acid mine discharges (AMDs) to the Sacramento River, as sources that are largely unregulated and contribute great amounts of metals to the river. The City of Redding has annually commented in our pretreatment program reports, on the deleterious affect of upstream heavy metal discharges from Iron Mountain Mine (IMM) into the Sacramento River and the downstream City water supply.

Prior to classification as a superfund site, IMM had previously been under a NPDES permit issued by the Central Valley Regional Water Quality Control Board. A review of a fact sheet by EPA on Iron Mountain Mine Superfund Site (May 1996) indicates the IMM site: under Superfund law, requires EPA cleanup actions to comply with all federal and state environmental requirements or of applicable or relevant and appropriate requirements" (ARARs), but allows a waiver of those requirements for interim actions such as collection and treatment of IMM Slickrock Creek flows. Although the interim actions will provide an environmental improvement, they are not expected to achieve full compliance with all of these environmental requirements. The fact sheet references that the ARARs waiver for "Interim Measures" is provided for under 40 CFR 300.430 (f)(1)(ii)(C)(1) and invited comment on whether it would be appropriate to rely on a waiver of these standards on the basis of "technical impracticability" under 40CFR 300.430 (f)(1)(ii)(C)(3).

Presently and for an indefinite period of time, IMM will remain without water quality criteria (WQC) compliance requirements. Additionally, it appears that there will be no enforcement actions against IMM

for failure to comply with WQC requirements. Apparently, this will not be the case for municipalities downstream of this and other AMDs on the Sacramento River according to the proposed CTR.

Monitoring of heavy metal concentrations in the Sacramento River by the City of Redding, indicate IMM interim actions implemented to date have produced an environmental improvement; however, the Sacramento River still violates water quality criteria proposed in the CTR. The very fact that the river will continue to experience violations of the proposed water quality criteria makes continuous POTW NPDES compliance impossible during AMDs upstream excursions of these same criteria. It would be unfair and cost prohibitive to require downstream POTW's to comply with increased water quality standards, where the water body quality has been significantly degraded because of the actions or inactions of the federal and state regulators on upstream discharges.

The City of Redding discharges back into the same water source (Sacramento River) from which it receives its primary municipal intake water. Wastewater discharge compliance with the proposed WQC would be very problematic, as ambient Sacramento River concentrations of heavy metals can fluctuate widely and be higher than the proposed WQC during any given river monitoring event. In contrast to theoretical models which assume the worst case scenario occur during low river flows, the upper Sacramento River commonly experiences the highest metal concentrations during high winter flows.

Even though the City of Redding does not have NPDES permit limits for metals at the current time, we must assume it will some day. Therefore, the above issue is significant and in need of comment at this time.

## SUMMARY

Federal Regulations contained within the proposed CTR prohibit the discharge of toxic constituents in toxic concentrations. Iron Mountain Mine, as a superfund site discharger to the Sacramento River, will not fall under the proposed CTR due to the federal waiver granted to them in 1996. The proposed CTR should address the issue of effluent limit adjustments based upon intake water concentrations from upstream AMDs and provide a means of implementing a fair and affordable approach to adjust or provide relief to municipalities whose sources of water are already at or above the proposed water quality criteria. The City of Redding believes it is urgent that U.S. E.P.A. include in the preparation of the final California Toxics Rule, effluent limit adjustments based upon intake water ambient concentrations due to AMDs or other upstream toxics for all applicable water bodies found within the State of California.

Therefore, we request that language be added to the proposed rule as follows, "Any discharger downstream of a water body which has been granted a federal or state variance or waiver, and whose primary source of water supply is impaired by such shall be allowed credit in their NPDES discharges by either 1) an extension of that variance or waiver to affected downstream dischargers and/or 2) allowing intake credits to affected downstream dischargers."

If you have any questions, please contact Wastewater Superintendent Stephen Craig at (916) 224-6063 or Industrial waste Supervisor Richard Elliott at (916) 224-6050.

Response to: CTR-084-001

The State has discretion to use implementation tools such as appropriate intake credits to apply to dischargers that have poor intake or receiving water which is beyond their control. Implementation of water quality standards through various regulatory and non-regulatory tools is primarily a State responsibility and is beyond the scope of the CTR. Since the proposed CTR was issued, the State

released a draft Policy for Implementation of Toxic Water Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, September 11, 1997. The draft policy included a provision for intake water credits (See pp. V-60-V-70). EPA has provided a copy of your comments to the State Water Resources Control Board for consideration.

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Subject Matter Code: H Paperwork Reduction Act

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Comment ID: CTR-019-004b

Comment Author: Richards, Watson & Gershon

Document Type: Local Government

State of Origin: CA

Represented Org: Cities of Barst

Document Date: 09/25/97

Subject Matter Code: H Paperwork Reduction Act

References: Letter CTR-019 incorporates by reference letters CTR-001, CTR-013, CTR-027 and CTR-036

Attachments? N

CROSS REFERENCES I

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Comment: THE PROPOSED RULE DOES NOT COMPLY WITH THE PAPERWORK REDUCTION ACT

The preamble states at page 42192 that the CTR "requires no new or additional information collection." It is difficult to believe that a rule which, unless modified, may effectively require end-of-pipe treatment of storm water discharges would not require any "additional information collection." For example, simply a demonstration that WQBEL's are infeasible requirements for either municipal storm water permits would necessarily require a significant amount of additional data collection and reporting. USEPA should have conducted a full analysis of the potential information gathering requirements of the CTR before proposing this rule.

The preamble to the proposed rule sets forth in detail the various efforts that USEPA employed to obtain public input on the CTR. However, to our knowledge, none of the cities on whose behalf we are submitting these comments, nor any of the other cities which we represent were contacted by EPA in advance of the proposed rulemaking or given a reasonable opportunity to participate.

In closing, we join in the requests made by other local governmental entities that the proposed rule be modified to exclude any application to storm water discharges to municipal separate storm sewer systems.

RICHARDS, WATSON & GERSHON 333 So. Hope Street, 38th Floor Los Angeles, California 90071

John J. Harris

Response to: CTR-019-004b

EPA disagrees with the commenter that the proposed CTR does not comply with the Paperwork Reduction Act, and that the CTR will impose new, additional requirements on storm water dischargers. The preamble states that the action requires no new or additional information collection subject to the Paperwork Reduction Act. The CTR promulgates water quality criteria for priority toxic pollutants. The State is required to implement water quality criteria through its water quality control programs, specifically through the NPDES permit program. The State implements water quality-based effluent limitations or WQBELs in NPDES permits for any pollutant for which reasonable potential exists. Thus, the CTR does not directly place any requirements on any discharger.

Reporting and monitoring requirements already exist for all NPDES dischargers, including storm water dischargers, under the NPDES regulations. The CTR does not impose any additional reporting or monitoring requirements. As noted above, the CTR promulgates criteria for toxic pollutants, and the State will use the criteria in developing water quality-based effluent limitations in NPDES permits for the pollutants where reasonable potential exists. The rule does not impose any additional reporting or monitoring burden on any discharger.

The CTR poses no direct information collection burden on the State of California. The CTR places an indirect burden for reviewing and revising the toxic pollutants that were promulgated. (See the National Toxics Rule discussion of the Paperwork Reduction Act at 57 FR 60848, Tuesday, December 22, 1992.) The general Water Quality Standards regulations Information Collection Request (ICR) estimated an average indirect burden on respondents (States) for reviewing and revising water quality criteria, and toxics criteria are merely a subset of those criteria. Thus, the CTR poses no direct burden, and any indirect burden on the State for a required triennial review has been estimated and updated in the general Water Quality Standards.

EPA acknowledges the comment concerning EPA's outreach to the public for input. In 1995, EPA sent out a newsletter to all interested parties, including all NPDES permit holders in the State of California, soliciting comments and attendance at public meetings. EPA held two public meetings on August 24, 1995 in San Francisco, where again comments were solicited from the discharger community, including storm water dischargers. In addition, EPA attended each of the State's Task Force Meetings for the development of the new statewide implementation plan; the storm water discharger community was invited to attend all of these meetings. EPA was available to the public for questions and answers on both the CTR and the State's proposed implementation. Reasonable opportunity existed for the storm water community to submit input on the CTR.

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Subject Matter Code: I Stormwater/Wet Weather Flows

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Comment ID: CTR-019-004a

Comment Author: Richards, Watson & Gershon

Document Type: Local Government

State of Origin: CA

Represented Org: Cities of Barst

Document Date: 09/25/97

Subject Matter Code: I Stormwater/Wet Weather Flows

References: Letter CTR-019 incorporates by reference letters CTR-001, CTR-013, CTR-027 and CTR-036

Attachments? N

CROSS REFERENCES H

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Comment: THE PROPOSED RULE DOES NOT COMPLY WITH THE PAPERWORK REDUCTION ACT

The preamble states at page 42192 that the CTR "requires no new or additional information collection." It is difficult to believe that a rule which, unless modified, may effectively require end-of-pipe treatment of storm water discharges would not require any "additional information collection." For example, simply a demonstration that WQBEL's are infeasible requirements for either municipal storm water permits would necessarily require a significant amount of additional data collection and reporting. USEPA should have conducted a full analysis of the potential information gathering requirements of the CTR before proposing this rule.

The preamble to the proposed rule sets forth in detail the various efforts that USEPA employed to obtain public input on the CTR. However, to our knowledge, none of the cities on whose behalf we are submitting these comments, nor any of the other cities which we represent were contacted by EPA in advance of the proposed rulemaking or given a reasonable opportunity to participate.

In closing, we join in the requests made by other local governmental entities that the proposed rule be modified to exclude any application to storm water discharges to municipal separate storm sewer systems.

RICHARDS, WATSON & GERSHON 333 So. Hope Street, 38th Floor Los Angeles, California 90071

John J. Harris

Response to: CTR-019-004a

EPA's EA, which uses many conservative costing assumptions, indicates that the cost of the State implementing water quality standards based on the proposed criteria in the CTR is likely to be below \$100 million per year. Benefits are also estimated to be below \$100 million per year. These estimates indicate that the action is not "significant" under E.O. 12866, under the provision concerning annual effects on the economy.

Criteria, by themselves, do not directly impose economic impacts. Criteria are one of three parts of a water quality standard. A water quality standard is comprised of: a criterion, a designated use, and an

antidegradation requirement. The CTR promulgates criteria for priority toxic pollutants. When these criteria are combined with State adopted designated uses and antidegradation requirements, water quality standards will be created. When the State implements these water quality standards, costs may be imposed. However, in the spirit of the intent of E.O. 12866, EPA prepared the EA which looks at the costs and benefits of the State's implementation of the resulting water quality standards based on the CTR criteria into the NPDES permit program.

The Unfunded Mandates Reform Act of 1995 (UMRA) in general requires federal agencies to assess the effects of their regulatory actions on State and local governments, and on the private sector. The agency must prepare a written statement including a cost-benefit analysis for actions with a "federal mandate" that may result in expenditures to State and local governments, in the aggregate, or to the private sector of \$100 million or more in any one year. The CTR does not contain any federal mandate that may result in expenditures by State and local governments, or the private sector, of \$100 million or more in any one year. The CTR imposes no direct enforceable duties on the State, local or private sector; rather the rule promulgates water quality criteria which, when combined with State-adopted designated uses and antidegradation requirements, will create water quality standards. The CTR does not directly regulate or affect any entity and therefore is not subject to the requirements of UMRA.

The Regulatory Flexibility Act in general requires federal agencies to describe the impact of their regulatory actions on small entities as part of the rulemaking. If the Administrator certifies that the action will not have a significant economic impact on a substantial number small entities, the agency is not required to prepare the analysis. The Administrator certified in the proposed rule, and is certifying again today that the rule will not have a significant economic impact on a substantial number of small entities. EPA's promulgation of water quality criteria will assist the State in establishing water quality standards. The State will, in turn, implement the resulting water quality standards in its water quality regulatory programs such as the NPDES permit program. The State has discretion in deciding how to meet the water quality standards and in developing discharge limits as needed to meet those standards. While the State's implementation of water quality standards based on federally-promulgated criteria may result in new or revised discharge limits being placed on small entities, the criteria or standards themselves do not apply to any discharger, including small entities. Thus, EPA's action today does not impose any of these as yet unknown requirements on small entities.

As described in EA that accompanied the proposed CTR (SAIC and Jones and Stokes Associates, 1997), EPA assumed that regulatory alternatives such as phased total maximum daily loads/water quality assessments, site-specific criteria modifications, standards variances, metals translators, etc., are considered under certain circumstances. Specifically, under the low-end scenario, regulatory alternatives were assumed necessary if the cost for a sample facility exceeded \$200 per toxic pounds-equivalent.

EPA assumes that a facility, when faced with the challenge of meeting water quality-based effluent limitations (WQBELs) based on CTR criteria, will select the most cost-effective controls, including regulatory alternatives. In fact, this has been the case in California, where several major POTWs have performed studies in pursuit of regulatory alternatives such as metals translators and site-specific criteria, rather than install costly controls to comply with WQBELs. EPA acknowledges that the actual cost-effectiveness value will vary by facility depending upon many factors, including the characteristics and volume of discharge, the receiving water, etc. However, EPA disagrees that the cost trigger is unrealistic, as it was reasonably based upon the highest reported cost-effectiveness values for industry categories subject to effluent limitations guidelines and standards.

Nonetheless, in the high-end estimate developed for the cost analysis accompanying the final CTR, no cost trigger was used and, thus, EPA's high-end cost estimate did not include the use of a regulatory

alternative for any sample facility.

Reference: SAIC and Jones and Stokes Associates, Inc. 1997. Analysis of Potential Costs Related to the Implementation of the California Toxics Rule. Prepared for U.S. EPA, Office of Science and Technology and U.S. EPA Region IX, May 5.

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Comment ID: CTR-030-004c  
Comment Author: Utility Water Act Group  
Document Type: Trade Org./Assoc.  
State of Origin: DC  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: I Stormwater/Wet Weather Flows  
References:  
Attachments? Y  
CROSS REFERENCES G-02  
G-04

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Comment: D. EPA's Endorsement of Five-Year Compliance Schedules and Interim Permit Limits for Modifications is Appropriate

UWAG strongly supports EPA's recognition that modifications necessary to comply with new or more stringent effluent limitations may necessitate the use of five-year compliance schedules. 62 Fed. Reg. at 42,187, col. 3. UWAG believes, however, that in certain circumstances a longer compliance schedule may be appropriate. Steam electric facilities that need retrofits to meet water quality-based effluent limits (WQBELS) often require extensive engineering design and testing prior to the actual retrofit. Additionally, nuclear facilities must ensure that any design changes are compatible with Nuclear Regulatory Commission regulations. Therefore, the availability of five-year compliance schedules is certainly well-justified. Further, EPA should consider whether longer compliance schedules should be available, at least in some limited circumstances.

Additionally, UWAG strongly supports EPA's approval of interim permit limits for use in permit modifications. This flexibility will allow dischargers to stay in compliance while necessary process or design changes are carried out.

Response to: CTR-030-004c

EPA dropped its proposed five year compliance schedule from the final CTR. Based on public comments, EPA has determined that, in California, establishment of a compliance schedule is an implementation issue. Thus, the State should have discretion to establish a compliance schedule subject to EPA approval.

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Comment ID: CTR-031-004c  
Comment Author: Fresno Metro. Flood Ctrl Dist.  
Document Type: Flood Ctrl. District  
State of Origin: CA  
Represented Org:

Document Date: 09/25/97

Subject Matter Code: I Stormwater/Wet Weather Flows

References: Letter CTR-031 incorporates by reference letter CTR-027

Attachments? N

CROSS REFERENCES C-17a

C-17b

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Comment: If the proposed rule is carefully and sufficiently modified to affirm a commitment by EPA to effect only its Congressional authorization as established by CWA section 402(p), then EPA's failure to assess municipal storm water dischargers' ability to attain the proposed standards and associated economic and environmental impacts may be set aside at this time. However, if EPA persists in maintaining the CTR as drafted in this regard, the ambiguities presented in the preamble demand serious consideration and analyses as follows.

a. Many of the criteria are not attainable or scientifically valid with regard to municipal stormwater dischargers, nor is the proposed approach consistent with an appropriate delegation of authority to the State.

ii. Scientific Defensibility of Standards

Municipal storm water discharges require a uniquely different scientific as well as regulatory approach. The episodic nature of storm flow events; the huge variances in flow volume, rate, timing, concentrations, and loads; the variability in receiving waters; and organism tolerance for and recovery from episodic exposure need to be taken into account in developing standards.

In a July 1992 memorandum addressing a Combined Sewer Overflow/Wet Weather workshop, Tudor Davies, Director of EPA's Office of Science and Technology wrote: "Changes being considered in the aquatic criteria development methodology to enhance the scientific defensibility of the criteria would be applicable to both constant and to wet weather discharges. One such change undergoing consideration is a change in the duration and frequency of exposure assumptions to make criterion more toxicologically realistic.

EPA has begun this work and is apparently nearing completion. With EPA's own Science and Technology office recognizing the inadequacy of the current approach to setting criteria relative to wet weather discharges, it must be concluded any attempt to apply the CTR criteria to municipal stormwater system discharges is ill-founded and likely inconsistent with the CWA.

Response to: CTR-031-004c

EPA believes the CTR is consistent with current State and federal regulatory approaches. Regarding the comment that the CTR is not coordinated with the State Implementation Procedures, the CTR and the State Implementation Plan have been coordinated by EPA and the State in order to be made effective in a similar timeframe. In addition, EPA will review the State Implementation Policy for consistency with the Clean Water Act.

The comment regarding NEPA and ESA review assumes that stormwater discharges subject to numeric effluent limitations will have to be treated by new end-of-pipe facilities. As explained in Comment ID CTR-001-002, EPA believes that implementation of criteria as applied to wet-weather discharges will not require the construction of end-of-pipe facilities.

EPA's interim policy regarding application of the CTR to storm water dischargers is described in response to Comment ID CTR-001-002. The issue raised here is more one of how criteria are implemented for storm water dischargers and not the criteria themselves, which are developed to be protective of aquatic life and human health. In addition, the criteria are biologically based and, as such, if applied with the appropriate duration and frequency for storm water events, reflect a biologically-based approach.

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Comment ID: CTR-031-005b

Comment Author: Fresno Metro. Flood Ctrl Dist.

Document Type: Flood Ctrl. District

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I Stormwater/Wet Weather Flows

References: Letter CTR-031 incorporates by reference letter CTR-027

Attachments? N

CROSS REFERENCES G-02

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Comment: If the proposed rule is carefully and sufficiently modified to affirm a commitment by EPA to effect only its Congressional authorization as established by CWA section 402(p), then EPA's failure to assess municipal storm water dischargers' ability to attain the proposed standards and associated economic and environmental impacts may be set aside at this time. However, if EPA persists in maintaining the CTR as drafted in this regard, the ambiguities presented in the preamble demand serious consideration and analyses as follows.

a. Many of the criteria are not attainable or scientifically valid with regard to municipal stormwater dischargers, nor is the proposed approach consistent with an appropriate delegation of authority to the State.

iii. State Flexibility and Authority

The CTR states, "The criteria established in this section are subject to the State's general rules of applicability in the same way and to the same extent as are other Federally-adopted and State adopted numeric toxics criteria when applied to the same use classifications..." p. 42206

[INDENT]This language supports State Water Resources Control Board decisions and the San Francisco Basin Plan which have made it clear that municipal storm water dischargers need to address water quality standards only through the implementation, and escalation as necessary, of best management practices. As noted previously, the language of this section must be better supported in the preamble.

Notwithstanding the above statement on page 42206, the CTR actually diminishes state flexibility in implementing the rule and is inconsistent with state compliance schedules. The CTR mandates implementation limits on the state and implies a 5-year limit on compliance.

A five-year compliance schedule for municipal storm water dischargers is entirely inconsistent with the State's, EPA'S, and Phase II stakeholder's understanding of the unique challenges of storm water permitting. The draft Phase II regulation submitted to OMB includes a comprehensive reevaluation of

storm water programs after two permit terms, and recommends no added best management practices or changes in the Phase II program until such evaluation and research are completed.

Response to: CTR-031-005b

See response to CTR-040-004.

EPA believes the CTR is consistent with current State and federal regulatory approaches. Regarding the comment that the CTR is not coordinated with the State Implementation Procedures, the CTR and the State Implementation Plan have been coordinated by EPA and the State in order to be made effective in a similar timeframe. In addition, EPA will review the State Implementation Policy for consistency with the Clean Water Act.

The comment regarding NEPA and ESA review assumes that stormwater discharges subject to numeric effluent limitations will have to be treated by new end-of-pipe facilities. As explained in Comment ID CTR-001-002, EPA believes that implementation of criteria as applied to wet-weather discharges will not require the construction of end-of-pipe facilities.

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Comment ID: CTR-036-008

Comment Author: County of Orange

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I Stormwater/Wet Weather Flows

References: Letter CTR-036 incorporates by reference letters CTR-013, CTR-018, CTR-031, CTR-034 and CTR-040

Attachments? N

**CROSS REFERENCES**

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Comment: We are concerned that the proposed rule precedes actions to evaluate wet weather flows by EPA Headquarters and the establishment of an appropriate scientific approach for stormwater compliance.

Response to: CTR-036-008

EPA's interim policy regarding application of the CTR to storm water dischargers is described in response to Comment ID CTR-001-002. The issue raised here is more one of how criteria are implemented for storm water dischargers and not the criteria themselves, which are developed to be protective of aquatic life and human health. In addition, the criteria are biologically based and, as such, if applied with the appropriate duration and frequency for storm water events, reflect a biologically-based approach.

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Comment ID: CTR-036-010b

Comment Author: County of Orange

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I Stormwater/Wet Weather Flows

References: Letter CTR-036 incorporates by reference letters CTR-013, CTR-018, CTR-031, CTR-034 and CTR-040

Attachments? N

CROSS REFERENCES G-02

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Comment: We are concerned that the five-year compliance period for stormwater discharges to meet the criteria is untenable. The linkage between the application of best management practices and water quality benefits is long term and will thus be hard to demonstrate. Even in a direct product substitution situation, such as the removal of leaded gasoline from fuels, data from Orange County shows a very slow and long-term reduction in lead concentrations in our water bodies over multiple years.

Response to: CTR-036-010b

EPA dropped its proposed five year compliance schedule from the final CTR. Based on public comments, EPA has determined that, in California, establishment of a compliance schedule is an implementation issue. Thus, the State should have discretion to establish a compliance schedule subject to EPA approval.

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Comment ID: CTR-042-004

Comment Author: Cal. Dept. of Transportation

Document Type: State Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: I Stormwater/Wet Weather Flows

References:

Attachments? Y

CROSS REFERENCES

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Comment: 4. The CTR criteria are not appropriate for application to storm water discharges.

In addition to the fact that the CTR criteria are not applicable to municipal storm water discharges, the water quality criteria proposed in the CTR are also based on the continuous or steady flows associated with wastewater discharges. As such, these criteria may not be applicable to the intermittent flows associated with storm water discharges. It is Caltrans understanding that EPA Headquarters is currently reviewing the applicability of water quality criteria to wet weather discharges. Currently, there exists no published scientific study assessing the impacts of storm water discharges on the designated beneficial uses of receiving waters. Given the variability of storm water flows, discharge points, pollutant quantities, and quality, EPA might consider a different approach to adopting criteria that takes into consideration this variability.

Requests:

Caltrans requests that the CTR criteria not be applied to municipal storm water discharges.

Response to: CTR-042-004

See response to CTR-040-004.

Every two years, the California State Water Resources Control Board (SWRCB) submits a report on the State's water quality to the U.S. EPA pursuant to Section 305(b) of the Federal Clean Water Act. These reports present water quality assessment information compiled by California's nine Regional Water Quality Control Boards. SWRCB (1996) indicates that urban runoff and storm sewers are major and moderate sources of impairment of beneficial uses in estuaries, lakes and reservoirs, rivers and streams, and wetlands. The extent of this impairment is shown in the table below.

#### Sizes of Waters Impaired by Urban Runoff and Storm Sewers by Contribution to Impairment

Waterbody Type (Units)	Major <sup>1</sup>	Moderate and Minor <sup>2</sup>
Estuaries(Acres)	899	52,552
Lakes and Reservoirs (Acres)	120,320	7,985
Rivers and Streams (Miles)	92	1,620
Wetlands, Freshwater (Acres)	1	58,316
Wetlands, Tidal (Acres)	0	184

Source: SWRCB (1996).

1. A major contributor is a source that is either the only one responsible for nonsupport of any designated use or it predominates over other sources.
2. A moderate contributor is a source that is the only one responsible for partial support of any use, predominates over other sources of partial support, or is one of multiple sources of nonsupport that have a significant impact on designated use attainment. A minor contributor is a source that is one of multiple sources responsible for nonsupport or partial support and is judged to contribute relatively little to this nonattainment.

State Water Resources Control Board (SWRCB). 1996. California 305(b) Report on Water Quality. Prepared as Required in Clean Water Act Section 305(b). August.

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Comment ID: CTRH-002-006a

Comment Author: Chris Compton

Document Type: Public Hearing

State of Origin: CA

Represented Org: County of Orange

Document Date: 09/18/97

Subject Matter Code: I Stormwater/Wet Weather Flows

References:

Attachments? N

CROSS REFERENCES J

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Comment: Does the California Toxics Rule meet the legal requirements of the Clean Water Act and other federal policies and laws?

Previous municipal stormwater speakers have questioned, as we have, EPA's interpretation of Section 402(p) of the Clean Water Act. In addition, the California Toxics Rule raises significant questions regarding its conformance with other federal policies and laws including Executive Order 12866, the Unfunded Mandates Reform Act, the Regulatory Flexibility Act, and the authority for EPA to adopt blanket criteria without considering the designated uses of such waters as required under the Clean Water Act.

To give you just one example, I'd like to briefly compare the California Toxics Rule with the compliance of Executive Order 12866:

Under Executive Order 12866, any "significant" federal regulatory action must be referred to the Office of Management and Budget for review before it can be approved. In this context, a "significant" action includes one which will "have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy." Though admitting that there "may be a cost to some dischargers" to comply with the water quality standards that will be derived from these toxics criteria, the EPA nonetheless argues that the proposed rule is not a significant action because it "establishes ambient water quality criteria which, by themselves, do not directly impose economic impacts."

First, nothing in Executive Order 12866 indicates that only actions with direct economic impacts are to be considered by OMB. Second, for the EPA to ignore the link between the toxics criteria in the proposed rule and the obligations being imposed is very questionable. Is EPA conceding that State and regional water boards may simply ignore these criteria when promulgating water quality standards and issuing permits? Nothing in the preamble indicates that EPA views these criteria as merely advisory.

Despite stating that Executive order 12866 is not applicable, EPA goes on to include an economic analysis which purports to demonstrate that the proposed rule will result in a net economic benefit. The problem with this analysis is that it completely ignores the enormous cost that municipalities will bear if they are forced to bring their stormwater discharges into compliance with these toxics criteria. For example, a 1990 study conducted for the Sacramento Stormwater Program estimated that it would cost nearly \$2 billion to implement a treatment program to achieve the water quality criteria proposed in the former Inland Surface Water Plan. Costs to comply with the proposed toxics criteria would be similar, if not higher, than those proposed in the Inland Surface Water Plan. Ultimately, the costs of compliance may reach into the ten of billions of dollars.

In short, EPA cannot have it both ways. It cannot state that stormwater discharges are subject to the proposed toxics rule and then turn a blind eye toward the costs associated with the implementation of this rule. The costs of the proposed rules are direct and significant, and therefore the rule must be submitted to OMB for review.

We have comparable concerns with the other federal laws that I cited previously, and we will elaborate on them in our written comments.

Response to: CTRH-002-006a

As with all NPDES storm water program rules, the CTR gives operators the flexibility to implement controls and measures as they deem appropriate to achieve the goals of the rule. MS4 operators can employ professional expertise, innovation or industry standards, and their previously-demonstrated legal authority (MS4 application, part 2 requirement) to achieve MEP (and to pay for it, if necessary), with the goal being cost-effective compliance with the CTR. WQS are considered in the CTR, as the rule allows the State to develop site-specific criteria when appropriate (see also the response to CTR-020-001 and

CTR-040-004).



Subject Matter Code: I-01 Application Sec 301 vs. MEP

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Comment ID: CTR-001-003  
Comment Author: Law Offices of Alan C. Waltner  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org: Alameda Cnty Clean Wtr Pgm  
Document Date: 09/22/97  
Subject Matter Code: I-01 Application Sec 301 vs. MEP

References:

Attachments? N

**CROSS REFERENCES**

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Comment: SECTION 402(P) ONLY SUBJECTS MUNICIPAL SEPARATE STORM SEWER SYSTEMS TO MAXIMUM EXTENT PRACTICABLE ("MEP") LEVEL CONTROLS

The implementation approach adopted by the State and Regional Boards is compelled by Section 402(p) of the Clean Water Act, which directs that a distinction to be drawn between industrial and municipal dischargers, and subjects municipal systems only to those controls that reflect pollution reductions to the maximum extent practicable.

Section 402(p)(3)(A) of the Clean Water Act as amended in 1987 provides that:

Permits for discharges associated with industrial activity shall meet all applicable provisions of this section and section (301).

42 U.S.C. 1342(p)(3)(A) (Emphasis Added).

In contrast to Section 402(p)(3)(A), which makes industrial storm water sources subject to "section 301," Section 402(p)(3)(B) provides that MS4 discharges need only satisfy the dual requirements of: (1) effective prohibition of non-storm water discharges, and (2) controls to reduce the discharge of pollutants in storm water to the maximum extent practicable ("MEP"). 33 U.S.C. S 1342(p)(3)(B). That subsection contains no cross reference to Section 301 as is found in the industrial discharge provision.

Section 301(b)(1)(C) sets a "timetable for achievement of objectives" that directs "point sources" to achieve "any more stringent limitation, including those necessary to . . . implement any applicable water quality standard established pursuant to (the CWA (such as the CTR)]" by July 1, 1977. 42 U.S.C. S 1311(b)(1)(C). This section has been cited by EPA as a basis for imposing numeric effluent limitations exceeding MEP-level controls on municipal storm water systems.

Yet, until the addition of Section 402(p) in 1987, municipal storm water systems were not subject to a NPDES permitting requirement. To read Section 301(b)(1)(C) as applying to municipal storm water systems would necessitate the retroactive application of Section 402(p), since under that reading such systems would have been required to address water quality standards ten years before the provision was added to the Act.

An interpretation of the statute resulting in such retroactive application would be strongly disfavored in the absence of clear Congressional intent to establish such retroactivity. N.J. Singer, Sutherland on Statutory Construction, S 41.04 (Sands 5th ed. 1993) ("Sutherland") ("Retrospective operation is not

avored by the courts however, and a law will not be construed as retroactive unless the act clearly, by express language or necessary implication, indicates that the legislature intended a retroactive application.").

However, Section 402(p) avoids this problem by expressly describing the applicability of Section 301, distinguishing between industrial storm water sources (which were always subject to Sections 402 and 301 and are confirmed by the 1987 Amendments to remain subject to Section 301), and municipal storm water sources (which were not subject to Section 402 prior to the 1987 Amendments and are only subject to MEP-level controls). The applicability provisions of Section 402(p) are also accommodated directly in Section 301(b)(1)(C), which only requires the achievement of "applicable" water quality standards. (\*3)

The express applicability provisions of Section 402(p) also eliminate any argument that Congress intended to make Section 402(p) retroactively applicable to municipal storm water systems, thereby requiring such systems to have achieved water quality standards ten years previously. Not only is evidence lacking of any Congressional intent to make the provision retroactive, any argument of such intent is definitively rebutted by the clear distinction in Section 402(p) between industrial and municipal storm water systems.

Under standard rules of statutory construction, the more specific provision (402(p)) prevails over the more general provision (301(b)), and the express reference to Section 301 for one category of dischargers (industrial) precludes implication of the same reference for another category of dischargers (municipal) that is specifically addressed and does not contain such a reference. (\*4) In other words, while Section 402(p) arguably makes the water-quality-related provisions of Section 301 applicable to industrial discharges, the Clean Water Act establishes a distinct system for MS4s that relies on the prohibition of non-storm water discharges and escalating best management practices.

EPA in the preamble to its 1990 storm water regulations acknowledged the statutory distinction in stating that:

The Act clarified that permits for discharges associated with industrial activity must meet all of the applicable provisions of section 402 and section 301 including technology and water quality based standards. However, the new Act makes significant changes to the permit standards for discharges from municipal storm sewers . . . . The approach is tiered in that storm water discharges associated with industrial activity must comply with sections 301 and 402 of the CWA . . . but permits for discharges from municipal separate storm sewer systems must require controls to reduce the discharge of pollutants to the maximum extent practicable . . . .

55 Fed. Reg. 47992-94 (November 16, 1990).

It is therefore important that the CTR confirm the implementation provisions of the 1995 Basin Plan and corresponding State Board decisions, and conform to the distinction set forth in Section 402(p) of the Clean Water Act. There is no authority under the Act for subjecting municipal storm sewer systems to control obligations exceeding the MEP standard.

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(\*3) Section 301(a), by reference, also requires compliance with Section 302, which provides that where a discharge:

would interfere with the attainment or maintenance of that water quality in a specific portion of the

navigable waters which shall assure protection of public health, public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water, effluent limitations (including alternative effluent control strategies) for such point source or sources shall be established which can reasonably be expected to contribute to the attainment or maintenance of such water quality.

33 U.S.C. S 1312(a). Such "alternative effluent control strategies" which "can reasonably be expected to contribute" to this goal are generally comparable in description to the MEP standard.

(\*4) In any event, Section 302 expressly allows "alternative effluent control strategies" and only requires limitations "reasonably" anticipated to "contribute" to meeting objectives. Similarly, EPA's regulations for the issuance of NPDES permits simply require the "imposition of conditions [that] ensure compliance with the applicable water quality requirements of all affected States., 40 C.F.R. S 122.4(d). For the San Francisco Bay Area, those requirements are expressed in the 1995 Basin Plan, which explicitly states that numerical water quality objectives are infeasible and provides for the sort of escalating management practices required under the NPDES permit for the ACCWP. The approach is also contemplated by EPA's regulations which state that NPDES permits should include " . . . best management practices to control or abate the discharge of pollutants when: . . . (2) Numeric effluent limitations are infeasible . . . I, 40 C.F.R. S 122.44(k).

Response to: CTR-001-003

This comment is outside the scope of this rule which concerns what criteria should apply to California waters. The rule is distinct from the issue of whether storm water dischargers must comply with water quality standards. The issue raised by the commenter has been addressed by EPA's storm water program in other contexts. EPA disagrees with the comments. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria with regard to WQBELs and storm water discharges, see response to CTR-031-004c.

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Comment ID: CTR-001-005

Comment Author: Law Offices of Alan C. Waltner

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org: Alameda Cnty Clean Wtr Pgm

Document Date: 09/22/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References:

Attachments? N

CROSS REFERENCES

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Comment: INCONSISTENT AND AMBIGUOUS LANGUAGE IN THE PREAMBLE SUGGESTING A DIFFERENT RESULT MUST BE REMOVED

Reaffirmation of the provisions in Section 402(p) that make municipal storm water systems subject only to MEP-level controls is critically important since a number of statements in the preamble are either expressly, or ambiguously, overbroad. For example, the preamble states that:

Point source and nonpoint source allocations are established so that predicted receiving water concentrations do not exceed water quality standards.

Page 42185. As discussed above, there is no authority in the Clean Water Act for imposing wasteload allocations on municipal storm water systems that require more than MEP-level controls. Likewise, the following statement could be read to impermissibly substitute numeric effluent limitations for the MEP control standard:

National Pollutant Discharge Elimination System (NPDES) permits for wet weather point source discharges must include limits necessary to implement applicable water quality standards, through application of water quality-based effluent limitations of WQBELS.

Page 42186. Other statements in the preamble are somewhat less direct but nonetheless problematic.

When these proposed federal criteria take effect, they will create legally applicable water quality standards in the State of California for inland surface waters, enclosed bays and estuaries for all purposes and programs under the CWA.

Page 42160. Similarly, the following statement at page 42162 could be read in an overbroad manner as applied to MS4 discharges:

CWA section 301(b)(1)(C) . . . requires NPDES permits to contain limitations required to implement any applicable water quality standard established in the CWA.

So long as this "implementation" occurs through adoption of MEP-level BMPs, the result may be correct, but it is correct only because 402(p) subjects MS4s to the MEP standard, rather than due to the provisions of Section 301(b)(1)(C), which only apply to industrial and not municipal storm water systems under the applicability scheme established in Section 402(p).

Likewise, the apparently broad statement at page 42184 that:

If a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criteria, the permitting authority must develop permit limits as necessary to meet water quality standards.

must be qualified as applied to MS4s by the distinction set forth by Congress in Section 402(p). From the same statutory language of Section 402(p) comes the corollary that wasteload allocations reflecting reductions beyond MEP do not apply to municipal storm water discharges. (\*6)

Any attempt to subject MS4s to controls exceeding the MEP standard would be unauthorized, and the statements in the preamble suggesting such a result must be removed. (\*7)

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(\*6) The limited time allowed by the proposed rule for compliance schedules also does not adequately accommodate the MEP standard, since it may not be practicable (or even possible) to meet NELs or WLAs within the deadlines allowed under the proposal. The rule should allow compliance schedules for as long as necessary to meet the requirements using MEP-level controls.

We note in this regard that the proposed State Implementation Policy would provide that:

In no event shall a schedule of compliance for point source discharges, including stormwater discharges, exceed 10 years from the date of adoption of this Policy.

Draft SIP at 17. This provision would violate both Section 402(p) of the Clean Water Act and the cost-benefit balancing provisions of the Porter Cologne Act discussed below, to the extent that compliance within ten years could not be achieved through MEP-level controls.

(\*7) We recognize that there is useful language in the discussion of "Wet Weather Flows" at page 42186-87, which states:

EPA recognizes that it is commonly infeasible to express (water quality based effluent limitations or] WQBELS as numeric limits for wet weather discharges and that in such cases best management practices ("BMPs") may serve as WQBELS . . . . It is therefore anticipated that WQBELS, including those necessary to meet the criteria set forth in this proposed rule, will be expressed as BMPs in wet weather discharges, NPDES permits, when the permitting authority determines that it is infeasible to express WQBELS as numeric limits.

We agree that MS4 permits should be established on the basis of BMPS. But EPA's discussion at page 42187 still fails to implement Section 402(p) to the extent that the agency would evaluate the feasibility of "expressing" numeric WQBELS rather than "satisfying" or "meeting" WQBELS. Section 402(p) only requires MS4s to adopt controls to the MEP level. It is the practicability of controls that is central to this system, not just the practicability of writing permits. The discussion at page 42187 should therefore be modified to acknowledge directly that MS4s are only required under Section 402(p) to adopt MEP level controls, regardless of whether it would be "feasible" from an administrative standpoint to write permits containing NELs or WLAS.

Response to: CTR-001-005

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria with regard to WQBELS and storm water discharges, see response to CTR-031-004c.

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Comment ID: CTR-001-011

Comment Author: Law Offices of Alan C. Waltner

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org: Alameda Cnty Clean Wtr Pgm

Document Date: 09/22/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References:

Attachments? N

CROSS REFERENCES

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Comment: CONCLUSION

The most fundamental concern of the ACCWP is that any decision to subject MS4 dischargers to numeric effluent limitations and/or wasteload allocations that could trigger extensive collection and

end-of-pipe treatment facilities should take place directly and openly, rather than implicitly through ambiguously drafted regulation and preamble discussion. The ACCWP believes that it is currently in full compliance with its Clean Water Act obligations, through the adoption and implementation of a Storm Water Management Plan that has won numerous awards.

Only controls to the maximum extent practicable are required under Clean Water Act Section 402(p), and the State and Regional Boards are likewise precluded from adopting draconian control measures under analogous limitations of the state Porter Cologne Act.

These are not just nettlesome roadblocks to EPA action, but instead reflect a considered determination made by the legislative branch of both the state and federal governments that resources need only be devoted to this subject to the extent practicable. Given the magnitude of the public expenditures that would be involved statewide from numeric effluent limitations and/or reductions to meet wasteload allocations more stringent than achievable from MEP-level controls, and the fact that Congress has already addressed the matter in Section 402(p), a decision of this type and magnitude cannot be made administratively.

If EPA's intention is to conform its rule to Section 402(p), it should do so clearly and cleanly and remove the conflicting statements in the proposed rule's preamble that suggest a different result.

Response to: CTR-001-011

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-013-001

Comment Author: County of Los Angeles

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References: Letter CTR-013 incorporates by reference letter CTR-027

Attachments? N

**CROSS REFERENCES**

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Comment: In addition, we would like to emphasize the following concerns which greatly impact the Los Angeles County Stormwater Program:

1. The application of water quality standards to calculate water quality-based effluent limits for NPDES permits for municipal stormwater discharges. As proposed by the USEPA, the numeric water quality standards in the California Toxics Rule will be used to calculate water quality-based effluent limitations for all NPDES permits issued by the State. With regard to stormwater permits, the USEPA states in the preamble that:

NPDES permits for wet weather point source discharge must include limits necessary to implement applicable water quality based standards, through application of water quality-based effluent limitations or WQBELS. When this rulemaking is complete, these (numeric) criteria will be used to determine water quality standards in California and will, therefore, be the basis of WQBELS in NPDES permits for wet weather point sources. (Page 42186)

We believe that this position is inconsistent with the plain language used by Congress in incorporating the "maximum extent practicable" standard for municipal separate storm sewer systems (MS4s) into Section 410(p) (3) (B) of the Clean Water Act. To date, we are unaware of any USEPA regulation which has taken the noted position.

The Preamble goes on to state: "It is ... anticipated that WQBELS, including those necessary to meet the criteria set forth in this proposed rule, will be expressed as BMPs in wet weather discharges' NPDES permits, when the permitting authorities determines that it is infeasible to express WQBELS as numeric limits." Although this statement is intended to soften the earlier position, the difficulty for municipalities is that even with an aggressive BMP-based program, a municipality will likely not be able to comply with the proposed water quality standards. This was found in the analysis conducted by the County of Sacramento and the Fresno Metropolitan Flood Control District. If this is the case, the permitting agency would be required to develop a permit with WQBELS that essentially require end-of-pipe treatment of stormwater and the municipalities would face significant costs for complying with the limits.

We recommend that the USEPA modify the Preamble to clarify that MS4s are not required to comply with water quality standards.

Response to: CTR-013-001

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-014-001

Comment Author: City of Lakewood

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References: Letter CTR-014 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

**CROSS REFERENCES**

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

1. The application of water quality standards to calculate water quality-based effluent limits for NPDES permits for municipal stormwater discharges. As proposed by the USEPA, the numeric water quality

standards in the California Toxics Rule will be used to calculate water quality-based effluent limitations for all NPDES permits issued by the State. We believe that this position is inconsistent with the plain language used by Congress in incorporating the "maximum extent practicable" standard for municipal separate storm sewers systems (MS4s) into section 410 (p) (3) (B) of the Clean Water Act. We recommend that the USEPA modify the Preamble to Clarify that MS4s are not required to comply with water quality standards.

Response to: CTR-014-001

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-019-001a

Comment Author: Richards, Watson & Gershon

Document Type: Local Government

State of Origin: CA

Represented Org: Cities of Barst

Document Date: 09/26/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References: Letter CTR-019 incorporates by reference letters CTR-001, CTR-013, CTR-027 and CTR-036

Attachments? N

CROSS REFERENCES J

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Comment: We recognize that the basic purpose for the proposed rule is to establish water quality criteria for priority toxic pollutants for point source discharges. However, in proposing to extend that criteria to storm water discharges, it is clear that EPA has not fully assessed the potential impact of such an extension on local governmental agencies, nor the complete lack of feasibility of attempting to apply numeric effluent standards to discharges to municipal separate storm sewer systems ("MS4s"), or the enormous cost of such an effort which would potentially require a complete reengineering and if not reconstruction of MS4s in California to include end-of-pipe treatment.

Our comments should be considered in the proper context. The cities which we represent are acutely aware of the problems associated with pollution from... urban runoff. Their residents and businesses share a common concern to preserve and enhance the water quality of our bays, rivers, estuaries and the Pacific Ocean. Our cities are fully committed to doing what they reasonably can to achieve these objectives. Our cities have been working with staff of the State Water Resources Control Board ("SWRCB") and its Regional Water Quality Control Boards ("RWQCB's") to develop effective storm water management programs under current municipal NPDES permits which comply with state and federal law. However, the proposed rule does not appear to reflect or recognize that individual cities' fiscal and administrative resources for implementing unfunded mandates are limited. Of all governmental agencies in California involved in the process, the many small cities which we represent are the least suited to bear the brunt of the responsibility for controlling pollution from urban runoff.

The primary portion of the proposed rule that has caused concern among our cities is the statement at

pages 42186-42187 of preamble that:

"When this rulemaking is complete, these criteria will be used to determine water-quality standards in California and will therefore be the basis of WQBELS in NPDES permits for wet weather point sources. However, EPA recognizes that it is commonly infeasible to express WQBELS as numeric limits for wet weather discharges and that in such cases best management practices ("BMPs") may serve as WQBELS. (Emphasis added.)

Our concern is further heightened by the comment at page 42187 of preamble that:

"It is therefore anticipated that WQBELS, including those necessary to meet the criteria set forth in this proposed rule, will be expressed as BMPs in wet weather dischargers' NPDES permits, when the permitting authority determines that it is infeasible to express WQBELS as numeric limits." (Emphasis added.)

The comments appear to indicate that in any further municipal NPDES permitting situations, the proposed rule potentially can be interpreted to require the implementation of WQBELS unless an analysis is prepared determining the infeasibility of each of the WQBELS as numeric limits.

As applied to storm water discharges, WQBELS are almost by definition infeasible. It should also be kept in mind that it is not the cities themselves that are the sources of stormwater pollution; municipal facilities have not been identified, to our knowledge, as being significant sources of contaminated urban runoff. Rather, the sources of this type of pollution, to the extent they can be identified, appear to be primarily the result of hydrological changes brought about by urbanization. These are activities over which cities have very little practical control. Nevertheless, the cities and counties of California are bearing the full and financially unassisted responsibility of ending stormwater pollution themselves.

We agree with the comments of the County of Los Angeles and the ACCWP that EPA's effort to apply numeric effluent limits to municipal storm water discharges is in direct conflict with the plain language of Congress in adopting the "maximum extent practicable" standard for controlling pollution in storm water discharges to a MS4. The proposed rule as applied to wet weather flows is also clearly inconsistent with both the EPA Is and the SWRCB's approach of addressing this problems through the adoption of Best Management Practices ("BMP's").

As noted in the SWRCB's own Municipal Storm Water Best Management and Practices Guidebook, "the sources of storm water pollution are extensive, ill-defined and highly variable." The State Board previously determined in its order entitled "In the Matter of Petition of Natural Resources Defense Council, Inc. for Review of Waste Discharge Requirements Order No. 90-079," Order No. WQ 91-04 (May 16, 1991), that:

"We find here also that the approach of the Regional Board requiring the dischargers to implement a program of best management practices which will reduce pollutants and runoff and prohibiting non-storm water discharges, is appropriate and proper. We base our conclusion on the difficulty of establishing numeric effluent limitations which have a rational basis, the lack of technology available to treat storm water discharges at the end of the pipe, the huge expense such treatment would entail, and the level of pollutant reduction which we anticipate from the Board's regulatory program. We feel compelled to note here our agreement with the Regional Board that this permit does truly represent a massive undertaking." (Emphasis added.)

As discussed in detail in the technical comments filed in response to the proposed rule, the EPA has not

explained how the proposed numeric effluent guidelines can be achieved through the implementation of BMP's. Under the circumstances, the ultimate result of the application of the rule to storm water discharges would be end of pipe treatment controls.

However, the EPA has already recognized, as the SWRCB, that end of pipe treatment controls for storm water discharges are technically unfeasible and unreasonable. The EPA has recognized that "it was not the intent of Congress to acquire municipal permits to required end of pipe treatment technology but to implement a comprehensive stormwater management program to reduce the discharge of pollutants from municipal storm sewer systems." 55 Fed.Reg., p. 48038 (November 16, 1990).

Each of our cities strongly believe that the proposed rule must be modified to clearly state that numeric effluent guidelines do not and will not apply to discharges to the municipal separate sewer systems.

Response to: CTR-019-001a

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-021-006e

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES J

E-01c

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Comment: It is with a sense of reluctance that Sunnyvale joins in CASA/Tri-TAC's adverse comments on the CTR and the EA, and Sunnyvale does so in a spirit of constructive criticism and with an expectation that the Agency will make the necessary adjustments in its approach towards the CTR before the final rule is promulgated. In addition, in the same spirit and with the same expectation, Sunnyvale would like to make the following points on its own behalf:

3. Failure to Address Important Stormwater-Related Issues. In addition to its POTW, Sunnyvale is the owner of a system of storm drains which contribute wet weather flows to the South Bay. We are concerned that the EA entirely neglects the potential impacts of the proposed CTR on the storm drains. The EA entirely omits any meaningful analysis of the costs of bringing storm drains into compliance with the proposed CTR, thereby significantly understating the overall costs of the CTR. We believe that this omission is violative of the Agency's legal obligations under the authorities cited in the preceding paragraph.

In addition, we join in the comments being filed by the various other operators of stormwater collection systems to the effect that EPA has overstated the legal requirements for storm drains to comply with numerical criteria.

Response to: CTR-021-006e

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs, see response to CTRH-002-006a. For further discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act and the Regulatory Flexibility Act, see the preamble to the final rule.

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Comment ID: CTR-024-001

Comment Author: City of Hawthorne

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References: Letter CTR-024 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

1. The application of water quality standards to calculate water quality-based effluent limits for NPDES permits for municipal stormwater discharges. As proposed by the USEPA, the numeric water quality standards in the California Toxics Rule will be used to calculate water quality-based effluent limitations for all NPDES permits issued by the State. We believe that this position is inconsistent with the plain language used by Congress in incorporating the "maximum extent practicable" standard for municipal separate storm sewers systems (MS4s) into section 410(p) (3) (B) of the Clean Water Act. We recommend that the USEPA modify the Preamble to clarify that MS4s are not required to comply with water quality standards.

Response to: CTR-024-001

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-027-001

Comment Author: California SWQTF

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040

Attachments? N

CROSS REFERENCES

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Comment: MAJOR ISSUES

1. The application of water quality standards to calculate water quality-based effluent limits for NPDES permits for municipal stormwater discharges. In the preamble to the proposed rule, US EPA suggests that the numeric water quality standards in the CTR will be used to calculate water quality-based effluent limitations for all NPDES permits issued by the State. With regard to stormwater permits, USEPA states in the preamble that:

NPDES permits for wet weather point source discharge must include limits necessary to implement applicable water quality based standards, through application of water quality-based effluent limitations or WQBELS. When this rulemaking is complete, these (numeric) criteria will be used to determine water quality standards in California and will therefore be the basis of WQBELS in NPDES permits for wet weather point sources. (Page 42186)

We believe that this position is inconsistent with the plain language used by Congress in incorporating the "maximum extent practicable" standard for municipal separate storm sewers systems (MS4s) into section 420(p)(3)(B) of the Clean Water Act. To date we are unaware of any USEPA regulation, which has taken the position in the proposed rule. Furthermore, the basis for USEPA's position is primarily the "Elliot memo". This memo is an internal memorandum and has not been subject to public or judicial review. Further discussion regarding this issue is found in the responses to the CTR by the Alameda Countywide Clean Water Program, County of Orange and County of Sacramento, which are incorporated herein by reference.

The Preamble goes on to state: "It is ....anticipated that WQBELS, including those necessary to meet the criteria set forth in this proposed rule, will be expressed as BMPs in wet weather discharges' NPDES permits, when the permitting authority determines that it is infeasible to express WQBELS as numeric limits." Although this statement appears to soften the earlier position, the difficulty for municipalities is that even with an aggressive BMP based program, a municipality will likely not be able to comply with the proposed water quality standards. We point to the analysis conducted by the County of Sacramento and the Fresno Metropolitan Flood Control District. If this is the case, the permitting agency could likely be required to develop a permit with WQBELS that essentially require end-of-pipe treatment of stormwater and the municipalities would face significant costs for complying with the limits (see following discussion regarding economic analysis).

Recommendation: USEPA should modify the Preamble statement to clarify that MS4s are only required to satisfy the MEP standard, and are not obligated to adopt controls beyond MEP-levels to achieve water quality standards.

Response to: CTR-027-001

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation

of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-030-010  
Comment Author: Utility Water Act Group  
Document Type: Trade Org./Assoc.  
State of Origin: DC  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: I-01 Application Sec 301 vs. MEP  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: F. EPA Should Provide a Consistent Standard for Application of BMPs to Wet Weather Flows

UWAG applauds EPA's recognition that "it is commonly infeasible to express WQBELS as numeric limits for wet weather discharges and that in such cases best management practices (BMPS) may serve as WQBELS." 62 Fed. Reg. at 42, 186-87. But EPA also obscures the standard for determining when use of BMPs is appropriate by stating:

It is ... anticipated that WQBELS, including those necessary to meet the criteria set forth in this proposed rule, will be expressed as BMPs in wet weather discharges' NPDES permits, when the permitting authority determines that it is infeasible to express WQBELS as numeric limits.

62 Fed. Reg. at 42,187, col. 1. This statement differs from the standard EPA proposed in a recently released question and answer document (61 Fed. Reg. 57,425 (Nov. 6, 1996)) on wet weather flows. According to the question and answer document, permitting authorities may use alternative permit conditions "where numeric water quality-based effluent limitations are determined to be unnecessary or infeasible." Id. at 57,426, col. 1 (emphasis added). Thus, EPA has narrowed the applicability of BMPs to wet weather flows for purposes of the California proposal. If EPA wants to promote consistent treatment of wet weather flows, it should modify the proposed preamble to the California water quality standards to reflect that the permitting authority may apply BMPs or other alternative permit conditions whenever a numeric WQBEL is unnecessary or infeasible.

Furthermore, EPA should explicitly state that the permitting authority bears the burden of showing that a numeric WQBEL for a wet weather flow is feasible or necessary. Since EPA admits that such limitations are "commonly infeasible," the permittee should not bear the burden of proving numeric limits unnecessary or infeasible.

Response to: CTR-030-010

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-031-001a  
Comment Author: Fresno Metro. Flood Ctrl Dist.  
Document Type: Flood Ctrl. District  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: I-01 Application Sec 301 vs. MEP  
References: Letter CTR-031 incorporates by reference letter CTR-027  
Attachments? N  
CROSS REFERENCES I-02

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Comment: 1. The preamble of the proposed CTR, and therefore the apparent intended application of the rule, is inconsistent with the Clean Water Act.

Several broad, ambiguous statements in the preamble of the proposed rule imply that Clean Water Act section 301 requirements apply to all dischargers, including municipal stormwater systems. These presumptions must be qualified to recognize the clear intent of Congress and plain language of the CWA, section 402(p) which clearly require municipal storm water dischargers only to adopt controls to reduce pollutants in storm water to- the maximum extent practicable and to eliminate non-storm water discharges. The section's intent is demonstrated through the application of section 301 requirements, and related application of numeric effluent limitations or wasteload allocations in NPDES permits, to industrial stormwater discharges only.

EPA is obviously aware of Congress's intent as to municipal storm water discharge requirements. EPA included in its published draft Phase I municipal storm water regulations a quote from the Congressional Record of October 16, 1986, citing that intent.

Without a clear citation of the provisions of CWA section 402(p), the preamble to the proposed rule appears to be an attempt to codify the Elliot memorandum of January 9, 1991, and to create via this rule a result not authorized by Congress.

In order to eliminate this fundamental legal flaw in the proposed CTR, and eliminate the potential for future misinterpretation and controversy, each of the following statements from the preamble (at a minimum) must be clarified and/or qualified so that they do not appear to override or retract CWA section 402(p).

"When these proposed federal criteria take effect, they will create legally applicable water quality standards ... in California ... for all purposes and programs under the CWA." [p. 42160. This statement must include recognition that for municipal storm water dischargers, the CWA objectives can be addressed through best management practices, implemented to the maximum extent practicable (MEP), as established by CWA section 402(p).]

"CWA section 301(b)(1)(C) ... requires NPDES permits to contain limitations required to implement any applicable water quality standard established in the CWA." [p. 42162. The text should note that section 301 (b) (1) (c) does not apply to municipal storm water dischargers, as established through section 402(p).]

"If a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric

or narrative water quality criteria, the permitting authority must develop permit limits as necessary to meet water quality standards." (P. 42184. Again, for municipal storm water dischargers, the preamble and CTR must make clear the MS4 permits must: address this CWA objective through the MEP requirement.)

"Point source and nonpoint source allocations are established so that predicted receiving water concentrations do not exceed water quality standards." [p. 42185.1; and

"[NPDES] permits for wet weather point source dischargers must include limits necessary to implement applicable water quality standards, through application of water quality-based effluent limitations or WQBELs." [p. 42186. These two statements are only correct as applied to industrial storm water dischargers; numeric effluent limitations or wasteload allocations can not be legally, reasonably, or practically applied to municipal storm water discharges.]

Response to: CTR-031-001a

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-035-036

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References:

Attachments? N

CROSS REFERENCES

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Comment: pp. 42186-42187 -- Wet Weather Flows Consistent with a recommendation by the Permitting and Compliance Issues Task Force, we recommend that EPA include language in the Preamble stating that, for permits such as stormwater permits that do not generally contain quantitative effluent limits but instead require the implementation of control measures and best management practices, compliance shall be determined based on the degree of implementation of the required control measures and the reduction of pollutants to the maximum extent practicable (SWRCB, 1995, Part VI).

Response to: CTR-035-036

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-036-001

Comment Author: County of Orange

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References: Letter CTR-036 incorporates by reference letters CTR-013, CTR-018, CTR-031, CTR-034 and CTR-040

Attachments? N

CROSS REFERENCES

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Comment: Applicability of Criteria to Municipal Stormwater Discharges

In the preamble to the proposed rule, EPA assumes without discussion that these criteria for priority toxic pollutants apply to municipal stormwater discharges. Specifically, the preamble states, "When this rulemaking is complete, these criteria will be used to determine water quality standards in California and will therefore be the basis of WQBELs [Water Quality-Based Effluent Limitations] in NPDES permits for wet weather point sources." [62 Fed. Reg. 431861.

We note for the record, however, that the applicability of WQBELs to municipal stormwater discharges is an issue which has not yet been resolved. Under Section 402(p)(3)(A) of the Clean Water Act ("CWA"), permits for industrial stormwater discharges must comply with the applicable provisions of the CWA concerning effluent limitations. [33 U.S.C. section 1342(p)(3)(A)]. In contrast, permits for municipal Stormwater discharges are only required to ensure reduction of the pollutant discharges "to the maximum extent possible." [33 U.S.C. section 1342(p)(3)(B)].

In the preamble, EPA acknowledges that it is "commonly infeasible" to express WQBELs as numeric limits for wet weather discharges and that in such cases best management practices (BMPs) "may serve as WQBELs." [62 Fed. Reg. 42186-871.] Implicit in that acknowledgment is the assumption that the application of WQBELs to municipal stormwater discharges remains appropriate and that numeric limits can be imposed on such discharges at some time in the future. We believe such an assumption is wrong and is directly contradicted by the plain language of Section 402(p). The distinction drawn between industrial stormwater discharges and municipal stormwater discharges under that Section are real and cannot be ignored by EPA in adopting the proposed rule.

Conclusions

The proposed California Toxics Rule in its current form has many flaws, with respect to its presumption of applicability to municipal stormwater discharges. The comments provided above indicate a need to substantially revise the rule and assure conformance with federal policies and laws. Consideration should also be given to allowing the State of California to resume control over rule promulgation. As a result, the County of Orange recommends that the rule not be adopted at this time and that discussions be initiated with municipal stormwater dischargers through the California Stormwater Task Force to resolve the many issues raised.

Response to: CTR-036-001

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges,

see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-040-003

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: MAJOR CONCERNS

We do, however, have fundamental concerns with the Rule as it is presently proposed and its supporting economic analysis. We believe the Rule can be modified in a manner that will be responsive to our concerns while at the same time being consistent with applicable Federal law and regulations. Our major concerns are presented here and are followed by our recommended modifications.

1. Concern: The Rule, as presently proposed, appears to require discharges from municipal stormwater programs to meet water quality based effluent limits (WQBELs).

\* Reference Section--Preamble, page 42186 of the Federal Register under "4. Wet Weather Flows." This language appears to replace the municipal stormwater BMP standard established in the Clean Water Act (CWA) section 402(p)(3)(B), that municipal stormwater programs "shall require controls to reduce the discharge of pollutants to the maximum extent practicable (MEP)..."

\* Many of the urban streams in Sacramento County are effluent dominated during storm events. Thus, the flow in these urban streams is primarily stormwater. If WQBELs apply to municipal stormwater, then stormwater discharges to many county urban streams will have to meet the numeric water quality criteria proposed in the Rule.

\* If the Rule intends that municipal stormwater discharges will be required to meet WQBELs, the Rule will force the Sacramento Stormwater Management Program to implement end-of-pipe treatment.

Response to: CTR-040-003

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-042-001

Comment Author: Cal. Dept. of Transportation

Document Type: State Government

State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: I-01 Application Sec 301 vs. MEP

References:

Attachments? Y

CROSS REFERENCES

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Comment: The California Department of Transportation (Caltrans) submits the following comments on the proposed California Toxics Rule ("CTR") relative to its status as a NPDES storm water discharge permit holder. As this proposed rule could have serious financial impacts on storm water dischargers, Caltrans welcomes the opportunity to provide comments to EPA that could decrease the impact of this rule while still affording a similar level of environmental benefit. It is our hope that you will give serious consideration to the following comments:

1. The CTR improperly applies water quality-based effluent limits to municipal storm water discharges.

The Preamble to the CTR discusses application of the rule to wet weather discharges by stating:

NPDES permits for wet weather point source discharges must include limits necessary to implement applicable water quality standards, through the application of water quality-based effluent limitations or WQBELS. Section 301(b)(1)(C) of the CWA, 33 U.S.C. 1311(b)(1)(C); see also Memorandum of E. Donald Elliot, Assistant Administrator and General Counsel, to Nancy J. Marvel, Region 9, dated January 9, 1991. When this rulemaking is complete, these criteria will be used to determine water quality standards in California and will therefore be the basis for WQBELS in NPDES permits for wet weather point sources.

62 Fed. Reg. 42,186 (Aug. 5, 1997). The position taken by EPA in this excerpt, namely that WQBELS must be applied to all wet weather discharges, is inconsistent with the plain language of the Clean Water Act ("CWA"). The CWA at section 402(p)(3)(B)(iii) specifically states that permits for discharges from municipal storm sewers "shall require controls to reduce the discharge of pollutants to the maximum extent practicable." Unlike industrial storm water dischargers, which are required to "meet all applicable provisions of this section and section 1311 of this title" (See section 402(p)(3)(A)), municipal storm water dischargers, such as Caltrans, must only reduce the discharge of pollutants to the Maximum Extent Practicable ("MEP"). The Preamble language mistakenly applies the WQBEL requirements of section 301 to municipal storm water dischargers when it is clear that Congress never intended for municipal dischargers to meet this more stringent standard.

Request: Caltrans respectfully requests that the Preamble be modified to clarify that municipal storm water discharges are not required to meet water quality standards, but must only control discharges to the MEP.

Response to: CTR-042-001

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-056-015a  
Comment Author: East Bay Municipal Util. Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: I-01 Application Sec 301 vs. MEP  
References: Letter CTR-056 incorporates by reference letter CTR-054  
Attachments? N  
CROSS REFERENCES C-24

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Comment: Third, regarding the criteria being proposed for adoption in the draft CTR, EBMUD recommends that EPA should:

\* Should clearly recognize within the CTR that the existing, approved Basin Plan for the San Francisco Bay includes requirements specifically designed to address wet weather overflows and grants provisions for exemptions where an inordinate burden would be placed on the discharger relative to the beneficial uses protected. It should also be acknowledged through inclusion in the CTR that the requirements and applicable exemptions previously justified and approved by EPA and the State should not be affected by the proposed rule.

Response to: CTR-056-015a

The purpose of the CTR is to fill the current gaps in water quality criteria in inland surface waters, enclosed bays, and estuaries. Any existing exemptions in a State Basin Plan that have been approved by the State and EPA would not be negated by the CTR.

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Comment ID: CTR-060-011  
Comment Author: San Diego Gas and Electric  
Document Type: Electric Utility  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: I-01 Application Sec 301 vs. MEP  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: PROVISIONS SDG&E DOES NOT SUPPORT

As described in the following comments SDG&E does not support the following provisions:

Application of effluent limits/BMPs to stormwater

The preamble (see 62 Fed. Reg. at 42,186, Col. 3) states that: 1) NPDES permits "...for wet weather point source discharges must include limits necessary to implement applicable water quality standards,

through application of water quality-based effluent limits or WQBELs"; and 2) "...these criteria will ... be the basis of WQBELs in NPDES permits for wet weather point sources". The preamble further recognizes that "it is commonly infeasible to express WQBELs as numeric limits for wet weather discharges and that in such cases best management practices (BMPS) may serve as WQBELs." (see 62 Fed. Reg. at 42,186-87). However, the standard for determining when the use of BMPs is appropriate is different from that provided in a recent Federal Register notice (see 61 Fed. Reg. 57425-29) "Questions and Answers Regarding Implementation of an Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits" (the "Notice"). Whereas the Notice states that permitting authorities may use alternative permit conditions "where numeric water quality-based effluent limitations are determined to be unnecessary or infeasible." Id. at 57,426, col. 1 (emphasis added), the preamble to the CTR indicates that BMPs may only be used where it is determined that "...it is infeasible to express WQBELs as numeric limits."

EPA should revise the preamble to the CTR to state that BMPs or other alternative permit conditions may be utilized whenever a numeric WQBEL is unnecessary or infeasible.

Furthermore, EPA should explicitly state that the permitting authority bears the burden of showing that a numeric WQBEL for a wet weather flow is feasible or necessary. Since EPA admits that such limitations are "commonly infeasible," the permittee should not bear the burden of proving numeric limits unnecessary or infeasible.

Response to: CTR-060-011

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-062-001

Comment Author: City of Downey

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References: Letter CTR-062 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

**CROSS REFERENCES**

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

1. The application of water quality standards to calculate water quality-based effluent limits for NPDES permits for municipal stormwater discharges. As proposed by the U.S. EPA, the numeric water quality standards in the California Toxics Rule will be used to calculate water quality-based effluent limitations for all NPDES permits issued by the State. We believe that this position is inconsistent with the plain language used by Congress in incorporating the "maximum extent practicable" standard for municipal separate storm sewer systems (MS4s) into section 410(p)(3)(B) of the Clean Water Act. We

recommend that the U.S. EPA modify the Preamble to clarify that MS4s are not required to comply with water quality standards.

Response to: CTR-062-001

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-071-001

Comment Author: City of Rosemead

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References: Letter CTR-071 incorporates by reference letter CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program.

1. The application of water quality standards to calculate water quality-based effluent limits for NPDES permits for municipal stormwater discharges. As proposed by the USEPA, the numeric water quality standards in the California Toxic Rule will be used to calculate water quality-based effluent limitations for all NPDES permits issued by the State. We believe that this position is inconsistent with the plain language used by Congress in incorporating the "maximum extent practicable" standard for municipal separate storm sewers systems (MS4s) into section 410(p)(3)(B) of the Clean Water Act. We recommend that the USEPA modify the Preamble to clarify that MS4s are not required to comply with water quality standards.

Response to: CTR-071-001

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-072-001

Comment Author: City of Bell Gardens

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References: Letter CTR-072 incorporates by reference letters CTR-013 and CTR-027  
Attachments? N

#### CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program.

1. The application of water quality standards to calculate water quality-based effluent limits for NPDES permits for municipal stormwater discharges. As proposed by the USEPA, the numeric water quality standards in the California Toxic Rule will be used to calculate water quality-based effluent limitations for all NPDES permits issued by the State. We believe that this position is inconsistent with the plain language used by Congress in incorporating the "maximum extent practicable" standard for municipal separate storm sewers systems (MS4s) into section 410(p)(3)(B) of the Clean Water Act. We recommend that the USEPA modify the Preamble to clarify that MS4s are not required to comply with water quality standards.

Response to: CTR-072-001

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-073-001

Comment Author: City of Paramount

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References: Letter CTR-073 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

#### CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program.

1. The application of water quality standards to calculate water quality-based effluent limits for NPDES permits for municipal stormwater discharges. As proposed by the USEPA, the numeric water quality standards in the California Toxic Rule will be used to calculate water quality-based effluent limitations for all NPDES permits issued by the State. We believe that this position is inconsistent with the plain language used by Congress in incorporating the "maximum extent practicable" standard for municipal separate storm sewers systems (MS4s) into section 410(p)(3)(B) of the Clean Water Act. We recommend that the USEPA modify the Preamble to clarify that MS4s are not required to comply with water quality standards.

Response to: CTR-073-001

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-074-001

Comment Author: City of San Gabriel

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References: Letter CTR-074 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

1. The Application of water quality standards to calculate water quality-based effluent limits for NPDES permits for municipal stormwater discharges. As proposed by the USEPA, the numeric water quality standards in the California Toxics Rule will be used to calculate water quality-based effluent limitations for all NPDES permits issued by the State. We believe that this position is inconsistent with the plain language used by Congress in incorporating the "maximum extent practicable" standard for municipal separate storm sewers systems (MS4s) into section 410 (p) (3) (B) of the Clean Water Act. We recommend that the USEPA modify the preamble to clarify that MS4s are not required to comply with water quality standards.

Response to: CTR-074-001

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-075-001

Comment Author: City of El Monte

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References: Letter CTR-075 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program;

I. The application of water quality standards to calculate water quality-based effluent limits for NPDES permits for municipal stormwater discharges. As proposed by the USEPA, the numeric water quality standards in the California Toxics Rule will be used to calculate water quality-based effluent limitations for all NPDES permits issued by the State. We believe that this position is inconsistent with the plain language used by Congress in incorporating the "maximum extent practicable" standard for municipal separate storm sewers systems (MS4s) into section 410(p)(3)(B) of the Clean Water Act. We recommend that the USEPA modify the Preamble to clarify that MS4s are not required to comply with water quality standards.

Response to: CTR-075-001

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-076-001

Comment Author: City of Cudahy

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References: Letter CTR-076 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR) , which are of major impact to our stormwater program:

1. The application of water quality standards to calculate water quality-based effluent limits for NPDES permits for municipal stormwater discharges. As proposed by the USEPA, the numeric water quality standards in the California Toxics Rule will be used to calculate water quality-based effluent limitations for all NPDES permits issued by the State. We believe that this position is inconsistent with the plain language used by Congress in incorporating the maximum extent practicable standard for municipal separate storm sewers systems (MS4s) into section 410(p)(3)(B) of the Clean Water Act. We recommend that the USEPA modify the Preamble to clarify that MS4s are, not required to comply with water quality standards.

Response to: CTR-076-001

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-078-001  
Comment Author: City of Maywood  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: I-01 Application Sec 301 vs. MEP  
References: Letter CTR-078 incorporates by reference letter CTR-013  
Attachments? N  
CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

I. The application of water quality standards to calculate water quality-based effluent limits for NPDES permits for municipal Stormwater discharges. As proposed by the USEPA, the numeric water quality standards in the California Toxics Rule will be used to calculate water quality-based effluent limitations for all NPDES permits issued by the State. We believe that this position is inconsistent with the plain language used by Congress in incorporating the maximum extent practicable,, standard for municipal separate storm sewers systems (MS4s) into section 410(p)(3)(B) of the Clean Water Act. We recommend that the USEPA modify the Preamble to clarify that MS4s are not required to comply with water quality standards.

Response to: CTR-078-001

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-079-001  
Comment Author: City of Glendale  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: I-01 Application Sec 301 vs. MEP  
References: Letter CTR-079 incorporates by reference letters CTR-013 and CTR-027  
Attachments? N  
CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

1. The application of water quality standards to calculate water quality based effluent limits for NPDES permits for municipal stormwater discharges. As proposed by the USEPA, the numeric water quality

standards in the California Toxics Rule will be used to calculate water quality-based effluent limitations for all NPDES permits issued by the State. We believe that this position is inconsistent with the plain language used by Congress in incorporating the "maximum extent practicable" standard for municipal separate storm sewers systems (MS4s) into section 410(p) (3) (B) of the Clean Water Act. We recommend that the USEPA modify the Preamble to clarify that MS4s are not required to comply with water quality standards.

Response to: CTR-079-001

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-087-001

Comment Author: Morrison & Foerster LLP

Document Type: Storm Water District

State of Origin: CA

Represented Org: SCVURPPP

Document Date: 09/24/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References: Letter CTR-087 incorporates by reference letters CTR-001 and CTR-027

Attachments? N

CROSS REFERENCES

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Comment: Members of the SCVURPPP strongly endorse and fully incorporate by this reference, the comments being submitted to you on the California Toxics Rule ("CTR") by the State Storm Water Quality Task Force, the Alameda Countywide Clean Water Program, and other municipal stormwater programs located throughout California. As those comments make clear at greater length, Congress's directive in Clean Water Act section 402(p)(3)(B) requires that the Agency expressly exclude municipal stormwater permits from the scope of proposed section 131.38(e)(1). Specifically, this section of the rule should be modified to state: "It is presumed that new and existing point source dischargers except for municipal stormwater dischargers, will promptly comply with any new or more restrictive water quality-based effluent limitations ("WQBELs") based on the water quality criteria set forth in this [rule]."

As other commenters have made clear, the Agency's current position in the CTR's preamble which "presumes" that municipal stormwater discharges are subject to water quality-based effluent limitations ("WQBELs") flies in the face of the plain language used by Congress in enacting section 402(p)(3)(B) of the Clean Water Act. It also ignores the contrast that Congress drew in the statute between the NPDES permitting requirements specifically delineated for municipal stormwater discharges and those expressly made applicable to stormwater discharges "associated with industrial activities." cf. 33 U.S.C. 1342(p)(3)(B) with 33 U.S.C. 1342(p)(3)(A). While best management practices ("BOPS") are certainly more appropriate tools for permit writers to use in stormwater permits than numeric effluent limitations, when it comes to municipal stormwater permits, Congress clearly required that such permit requirements be derived from section 402(p)(3)(B)(iii)'s maximum extent practicable standard, not through WQBELs based on the type of numeric water quality standards being promulgated in the CTR.

Response to: CTR-087-001

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c.

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Comment ID: CTR-090-014

Comment Author: C&C of SF, Public Util. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

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Comment: Impacted Facilities - p 42160. Potentially Affected Facilities--- This list should include separate storm water systems and combined sewer systems in addition to POTWS. The preamble is vague as to whether these facilities must eventually comply with water quality criteria. If municipal wet-weather discharges must comply with strict application of the CTR, the potential infrastructure costs of compliance for metropolitan areas will be considerable. San Francisco spent \$1 billion to address wet weather pollution. Assuming comparable per capita costs (\$1,300 pc), and an urbanized population of 25,000,000 in California, wet weather capital costs could run over \$32,000,000,000. Annual amortization costs (I = 5%) would exceed, \$2,500,000,000. Even if only 5% of urbanized areas needed to use structural solutions for wet weather discharges, annual costs would be in the order of \$125,000,000. It is essential that EPA decide whether it expects wet weather discharges to comply with the numerical standards and then state this assumption explicitly. EPA is doing a disservice to the public if it maintains this dichotomy in the document: (1) an assumption in its economic analysis that storm water will not need substantial controls to meet the requirements of the rule-making, and (2) the position that this rule-making will promote the attainment of those designated uses adopted by the state.

Response to: CTR-090-014

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs, see response to CTRH-002-006a.

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Comment ID: CTR-092-011

Comment Author: City of San Jose, California

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References: Letter CTR-092 incorporates by reference letter CTR-035

Attachments? Y  
CROSS REFERENCES

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Comment: Application of Rule to Municipal Stormwater Dischargers

The CTR does not clearly state how the establishment of these criteria is intended to be implemented to municipal stormwater dischargers. The City opposes to any scenario that would directly apply numerical water quality objectives to this permitted program. The Rule needs to be revised to clearly state that the criteria established by the rule will not be used to calculate numeric water quality based effluent limitations for municipal storm water dischargers.

If the Rule were to result in the imposition of numeric water quality based effluent limitations on municipal storm water dischargers, it would be inconsistent with the plain language used by Congress in incorporating the "maximum extent practicable" standard into Section 402(p)(3)(B) of the Clean Water Act. Revision of the Rule to clearly state that it will not result in the imposition of numeric water quality based effluent limits on the Municipal storm water dischargers is also necessary to conform the rule with EPA's Economic Analysis, which assumes that the Rule will have no economic impact on these dischargers. EPA's failure to assess the costs of bringing municipal storm water dischargers into compliance with numeric water quality based effluent limits would represent a substantial violation of its legal requirements under Executive Order 12866, the Unfunded Mandates Reform Act of 1995 (2 U.S.C.A. 1511 et seq.), and the Regulatory Flexibility Act (5 U.S.C.A. 601 et seq.).

Specific areas of the Rule that need to be revised to clarify application of the rule to municipal storm water dischargers are Section F4 of the preamble, relating to wet weather flows and Section 131.38(e)(1). The discussion of the "unfeasibility" of imposing numeric limits for wet weather dischargers in the preamble is not an adequate statement that numeric limits will not be imposed. Moreover, the Rule itself states that it "presumed" that new and existing point source dischargers will promptly comply with any new or more restrictive water quality based effluent limits based on the water quality criteria set forth in this section. In order to be consistent with the Economic analysis, the Rule should explicitly state that it can only be used to establish BMP's as WQBEL's for municipal stormwater dischargers.

Response to: CTR-092-011

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs, see response to CTRH-002-006a.

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Comment ID: CTRE-002-002  
Comment Author: G. Fred Lee & Associates  
Document Type: Academia  
State of Origin: CA  
Represented Org:  
Document Date: 09/18/97  
Subject Matter Code: I-01 Application Sec 301 vs. MEP  
References:  
Attachments? N

## CROSS REFERENCES

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Comment: As you heard from speaker after speaker yesterday, the urban stormwater dischargers are justifiably concerned about the confusing situation that exists today where they are being informed by the US EPA that NPDES-permitted urban stormwater runoff will be subject to having to meet water quality standards (objectives) in the receiving waters for the stormwater runoff during the time of runoff and after through a process of ever-increasingly more stringent and expensive BMPS. As I testified at the hearing and as is well understood in the field, the US EPA "Gold Book" water quality criteria, including those being promulgated under the California Toxics Rule, were not designed to address short-term, episodic events of the type that routinely occur in stormwater runoff from urban areas and highways. As a result, administrative exceedances of the California Toxics Rule criteria can readily occur without any real impairment of the designated beneficial uses for the receiving waters for the stormwater runoff. By real impairment I mean an altered number, types and/or characteristics of aquatic life in the receiving waters for the runoff.

There have been a sufficient number of studies conducted now to document that it will indeed be rare that the constituents which occur in urban stormwater runoff from residential and commercial areas are in toxic, available forms for a sufficient duration in the receiving waters for the runoff to be adverse to aquatic life. As long as the US EPA persists with its improperly developed and adopted Independent Applicability policy, where chemical criteria/standards have to be met, even if appropriately conducted studies show that the constituents of concern such as heavy metals in urban stormwater runoff, are in non-toxic, non-available forms, the urban stormwater dischargers face the situation of ultimately having to spend large amounts of public funds to achieve administrative exceedances of inappropriate criteria/standards for urban stormwater runoff with no expected improvement in the real beneficial uses of waterbodies in which the exceedances occur that are of concern to the public who must ultimately pay for the control programs.

The administrative exceedances arise from well-known, technically invalid, inappropriate approaches that were adopted by the US EPA in the 1980s for implementing the "Gold Book" criteria that the Agency under various administrations has yet to address. Even today, based on discussions at the US EPA's Multi-Regional Water Quality Criteria and Standards meeting that was held at the end of August 1997 in St. Louis, Missouri, the Agency is still unwilling to address in a meaningful way the problems in regulating urban stormwater runoff water quality. For the Agency to announce, as it did at this meeting, that wet weather issues are no longer part of the ANPRM represents a serious deficiency in the Agency's current policy that must be corrected.

Response to: CTRE-002-002

EPA disagrees with the comments. The ANPRM and the scope of section 402(p) are outside the scope of the rule. See response to CTR-001-003. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs, see response to CTRH-002-006a. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004.

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Comment ID: CTRH-001-001a  
Comment Author: Robert Hale  
Document Type: Public Hearing

State of Origin: CA  
Represented Org: CA Stormwater Task Force  
Document Date: 09/17/97  
Subject Matter Code: I-01 Application Sec 301 vs. MEP

References:

Attachments? N

CROSS REFERENCES J

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Comment: MR. HALE: Good afternoon. My name is Robert Hale and I'm the chairman of the California Stormwater Quality Task Force which is located at 951 Turner Court, Suite 300, in Hayward.

This task force is a statewide organization representing municipal separate storm sewer systems that hold National Pollutant Discharge Elimination System, NPDES, permits to discharge stormwater.

My comments today are on behalf of the -- principally on behalf of that task force. I also am chairman of the management committee of the Alameda Countywide Clean Water Program. I will make some comments with respect to Alameda County.

As proposed by EPA, the preamble language, which is the principal point here in referring to numeric effluent limitations and water quality based effluent limitations, is clearly inconsistent with the plain language used by Congress in incorporating the maximum extent practicable standard into Section 402(p)(3)(B) of the Clean Water Act.

You may argue that this reference is only in the preamble and not in the main text of the rule; but it's my understanding, however, that the preamble itself is supposed to explain and clarify the meaning of the rule and the Clean Water Act. This proposed language would instead appear to be trying to change one of the fundamental points of the Clean Water Act.

The reason I think this point is fundamental is that the cost to society, and to our county in this case and to the states, is an important consideration. Congress considers the entirety of the tasks that the country has to do, rather than going for broke on one issue such as stormwater quality.

In short, the Congress balances the larger picture, and the language in Section 402(p)(3)(B) actually reflects that balance. I believe that Section 402(p) says what it says for a good reason. The only economically feasible means of achieving water quality standards is through best management practices.

To illustrate this point, I work in Alameda County as chairman of the Clean Water Program there, and I did some rough calculations here. We often get storms as much as 2 inches in a 24-hour period. That's several times a winter. If you had a one-day storm, as I figure it, that will work out to 5 billion gallons of runoff water.

To treat this much water, if we were driven to this sort of the extreme case by the language in the preamble -- and I'm not talking about the text of the rule so much as the language in that preamble -- if it were to drive us in this extreme case to have -- to do end-of-pipe treatment for our discharges in order to meet the standards that are there, and to keep up -- basically keep up with the storms, which often come one behind the other within a couple days, it would necessitate building dozens, perhaps more, treatment plants of substantial size and would necessitate the use or acquisition of valuable industrial properties on the margins of the bay. Which I just did a little separate figuring here; I'm figuring it costs about \$3 a gallon to treat -- to secondarily treat sanitary sewage and about \$4 a gallon to store it.

I estimate that a storm of this size -- to be able to handle a storm of this size would cost between 35 and \$50 billion for Alameda County alone. This is for a population of 1.35 million residents.

And this does not account for the acquisition of property needed to do this, assuming we could store it in facilities or properties we already own. And it also does not account for the secondary treatment. In fact, we might have some difficulty achieving the standards that are in the rule.

And there's a way you can express this getting down to the nuts and bolts of it, which I like to do. I did some rough estimates of the size of the Oakland Coliseum, and if you were to use structures the size of the Oakland Coliseum for storing this water from one of these storms, I figured it would come out to -- you'd need 50 of them to store the runoff from this one storm that I've got here.

And I know some of you might be thinking about how the A's are doing right now and this might not be a bad idea. We can, say, think about leaving an extra one there for the A's and Raiders and build 50 more of them.

But the point is, we're talking about a tremendous investment in the infrastructure here, and it's very difficult for us to keep up with.

So let's see. Just a few more points here.

So we're not really talking about upgrades to existing delivery and treatment systems. We would have to start from scratch and build pumping systems, conveyance systems, to build an entire infrastructure. The cost would be prohibitive for us in Alameda County. This is a -- sort of one of the worst-case scenarios. And I think that the economic rule -- or the economic analysis in the rule doesn't do this justice.

So --

MR. MORRIS: Have you done any modelling?

MR. HALE: This is strictly back-of-the-envelope type calculations at this point. I don't know whether or not -- what discharges the storm concentrations would result in.

The first question I have on modeling is to see what these discharges of stormwater with these effluent concentrations -- under the storm conditions if we would be -- would have a higher flow than the drought flow condition which was modeled.

When you have a storm event, the stream conditions are different, the hydrology is different, the modeling characteristics. We could work out the scenario. And it's true that when you've got a huge storm, water fires right out the bay and out the Golden Gate. We might even probably need to talk about that and work on that.

Response to: CTRH-001-001a

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria with regard to WQBELs and storm water discharges, see response to CTR-031-004c. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs,

see response to CTRH-002-006a.

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Comment ID: CTRH-001-004  
Comment Author: Alan Waltner  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Alameda Cnty Clean Wtr Pgm  
Document Date: 09/17/97  
Subject Matter Code: I-01 Application Sec 301 vs. MEP  
References:

Attachments? N

#### CROSS REFERENCES

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Comment: MR. WALTNER: Thank you.

Good afternoon. My name is Alan Waltner and I have served as counsel to the Alameda Countywide Clean Water Program for seven years now, through the first and second rounds of NPDES permits and also the 1995 Basin Plan amendments for the San Francisco Bay area. I'll be following up on Robert Hale's comments he presented about the practical issues we're worried about.

Our concern fundamentally is a set of inconsistent statements in the preamble regarding how this rule would apply to municipal stormwater dischargers. At one point, for example, it states that alternate anticipated criteria may apply through simply best management practices, which is happening currently.

At other points in the preamble it suggests that we would have to do whatever it takes to make wasteload reductions under a waste allocation system or water-based numeric effluent limitations that would be keys to the standards. And depending on which of those interpretations you apply, the difference is significant.

Right now we're doing best management practices under the criteria of Section 402(p), that we have to do all that we can to the maximum extent practicable, and we estimate addressing pollution in stormwater for Alameda County to cost somewhere in the approximate neighborhood of 10 million a year, if I'm right.

It we had to do whatever it took, it -- by initial analysis, if we had to do whatever it took to provide a wasteload reduction that would be a proportionate share -- actually, copper mostly -- by end-of-pipe treatment of the entire stormwater flow of the county to produce the proportionate reductions, and you start coming up with figures in the range of \$60 billion from Alameda County.

So it's incredibly important for us that the preamble language be clarified or -- and we think in a way that's consistent with Section 402(p), that the municipal stormwater systems only need to do appropriate MEP level controls.

Now, industrial stormwater dischargers under Section 402(p) may be subject to 301 and the numeric effluent limitations waste water quality standards. There is a clear distinction in Section 402(p) between the treatment of the industrial stormwater dischargers and the municipal stormwater dischargers. We think you need to maintain that distinction.

Now, I've noted that the regulation itself seemed to preserve the existing implementation policy of the State Water Resources Control Board. The policy of the State Water Resources Control Board simply requires implementation of BMPs to comply with 402(p) criteria. And to the extent that the rule keeps that implementation policy in place, then we're simply continuing what we're doing, the implementing of BMPs. That is something that we've already bought into and recognized we're obligated to do.

But if some of the significant statements in the preamble language were to prevail and we should have to do whatever it takes to provide proportionate wasteload reductions, it would lead to significant disruption and other legal problems that violate the description of Section 402(p) review procedures for the 1995 Basin Plan.

In that sense you would be impliedly repealing that implementation which would violate the review of the EPA subject to the 1995 Basin Plan, because it's impliedly repealing the implementation provision that we only have to do best management practices.

I think the bottom line is we're asking for EPA to clarify that Section 402(p) is what controls in this situation when applied to municipal stormwater dischargers, that we are obligated to keep pursuing maximum extent practicable controls, but that Congress has concluded there shouldn't be a requirement that we do whatever it takes, regardless of cost. And again, the costs are substantial to meet these numbers.

Thank you.

Response to: CTRH-001-004

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria with regard to WQBELs and storm water discharges, see response to CTR-031-004c. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs, see response to CTRH-002-006a.

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Comment ID: CTRH-001-006  
Comment Author: Doug Harrison  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Fresno Met. Flood Control  
Document Date: 09/17/97  
Subject Matter Code: I-01 Application Sec 301 vs. MEP  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: MR. HARRISON: Doug Harrison, General Manager of the Fresno Metro Flood Control District. I also happen to serve currently as a member of EPA's Wet Weather Advisory Committee and as liaison for FACA to the Stormwater Phase II FACA, so I've had the benefit of some additional exposure to some of these issues of concern recently.

I would endorse the comments of concern that Mr. Waltner just described. We're going to address these in written comments, but I wanted to touch verbally today on some that stand out, that flow from those concerns.

We agree with the concern that the preamble appears to try to codify the Elliott memorandum of 1991 and as to produce a result that was not intended by Congress in the 1987 Act amendments.

There are references on pages 42184, 186 and 187 of your preamble where these concerns arise, where you fail to address the clear language spelled out in the Clean Water Act that relates to municipal stormwater systems. We think for the rule to resolve this deficiency that there needs to be some clarification specifically addressed.

We believe that EPA itself is aware of the congressional intent with respect to the language in Section 402(p) as that relates to the municipal systems. In its draft stormwater regulations of October 1986, EPA included specific language that cited quite clearly the congressional intent and the understanding of that intent as it related to municipal systems and the issues around the permittings of those municipal stormwater systems.

Response to: CTRH-001-006

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria with regard to WQBELs and storm water discharges, see response to CTR-031-004c. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs, see response to CTRH-002-006a.

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Comment ID: CTRH-001-031  
Comment Author: Dave Brent  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: CA Water Qual. Task Force  
Document Date: 09/17/97  
Subject Matter Code: I-01 Application Sec 301 vs. MEP  
References:

Attachments? N

**CROSS REFERENCES**

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Comment: MR. BRENT: Good afternoon.

I thank you for this opportunity to speak on the proposed rule. I'm Dave Brent, vice chairman of the California State Water Quality Task Force and supervisor of the City of Sacramento's stormwater management facility. I've been supervisor of the City of Sacramento's Stormwater Management Program for the past six years.

My comments are representative of at least nine major metropolitan stormwater programs in California, all with active stormwater management programs through the State Water Quality Task Force. You will also be provided with comments down in Los Angeles tomorrow.

We would echo Bob Hale and Doug Harrison. I think it's important that you hear from the state water interests, the State Water Quality Task Force on stormwater and the technical elements of the CTR itself.

This said, there are four major concerns that the State Water Quality Task Force and the Sacramento Stormwater Program have with this proposed CTR.

The first concern is the discussion in the preamble that states that the municipal stormwater permits must include limits necessary to implement applicable water quality standards. This approach continues the erosion of Congress's intent in the 1987 Clean Water Act amendments as implemented in Part 402(p) of 40 CFR, that applied the MEP standard, maximum extent practicable, to municipal stormwater discharges.

While the proposed rule appears as if it may recognize this MEP standard by giving the permit writers flexibility to express effluent limits as best management practices when the permitting authority determines that it is infeasible to express numeric limits, it doesn't come out and say what the regulations clearly require, that municipal stormwater dischargers must effectively control non stormwater discharges and control the discharges of pollutants to the maximum extent practicable.

In short, we believe that the preamble should not mince words and should clearly state that stormwater -- municipal stormwater discharges are subject to MEP.

Response to: CTRH-001-031

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria with regard to WQBELs and storm water discharges, see response to CTR-031-004c. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs, see response to CTRH-002-006a.

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Comment ID: CTRH-001-040  
Comment Author: Kathy Russick  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Sacramento Co. Stormwater  
Document Date: 09/17/97  
Subject Matter Code: I-01 Application Sec 301 vs. MEP

References:

Attachments? N

**CROSS REFERENCES**

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Comment: MS. RUSSICK: Kathy Russick, speaking on behalf of the Sacramento County Stormwater Quality Section, who is one of four member agencies of the Sacramento Stormwater Management Program, the other agencies being the cities of Sacramento, Galt and Folsom.

And I would like to note that many of the challenges facing the Sacramento Stormwater Program which I raise here are also the same challenges facing other stormwater programs in the state.

Specifically, I will be addressing today the concern raised by these stormwater agencies that the California Toxics Rule will require municipal stormwater programs in California to meet numeric water quality limits.

The interpretation of the rule that we are -- this interpretation of the rule we are concerned with was discussed last week at a state Stormwater Quality Task Force meeting. We discussed it with a representative of the State Water Resources Control Board and he confirmed the interpretation specifically that municipal stormwater programs will have to implement ever-escalating BMPs until the numeric discharge limits are achieved.

Response to: CTRH-001-040

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs, see response to CTRH-002-006a. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004.

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Comment ID: CTRH-002-001

Comment Author: Chris Compton

Document Type: Public Hearing

State of Origin: CA

Represented Org: County of Orange

Document Date: 09/18/97

Subject Matter Code: I-01 Application Sec 301 vs. MEP

References:

Attachments? N

**CROSS REFERENCES**

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Comment: My name is Chris Crompton and I'm the manager of environmental resources for the Orange County Public Facilities and Resources Department. My office address is 10852 Douglass Road, Anaheim, California.

Today I'm presenting comments on the draft California Toxics Rule on behalf of the County of Orange and the Orange County Flood District. The County of Orange is the principal permittee on municipal stormwater permits for Orange County. These permits cover stormwater discharges for the county, flood district, and 31 incorporated cities.

In the main, the County of Orange supports the comments presented on behalf of the California Stormwater Quality Task Force by Chairman Robert Hale at the public hearing in San Francisco yesterday and by other municipal speakers from Sacramento County and Fresno. The County has been an active participant in the Task Force and in the development of those comments. Today I will be presenting our general concerns regarding the California Toxics Rule as it applies to our municipal stormwater quality management program. More detailed written comments on the proposed rule are being prepared for inclusion in the public record.

Our written comments will focus on challenging a number of basic assumptions in the California Toxics

Rule. In brief, we're going to be questioning the following:

Are the criteria applicable to municipal stormwater discharges?

In the preamble to the proposed rule, EPA assumes that these criteria for priority toxic pollutants apply to municipal stormwater discharges. We note for the record, however, that the applicability of water quality based effluent limits on municipal stormwater discharges has not been resolved. The Clean Water Act only requires dischargers of municipal stormwater to reduce pollutants "to the maximum extent practicable."

As noted in the Task Force testimony yesterday, in the preamble, EPA assumes that the application of water quality based effluent limits to stormwater discharges is appropriate and that the numerical limits can be imposed on such discharges sometime in the future. We believe that this assumption is incorrect and is directly contradicted by the plain language of Section 402(p) of the Clean Water Act.

Response to: CTRH-002-001

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria with regard to WQBELs and storm water discharges, see response to CTR-031-004c. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs, see response to CTRH-002-006a.

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Comment ID: CTRH-002-008  
Comment Author: Chris Compton  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: County of Orange  
Document Date: 09/18/97  
Subject Matter Code: I-01 Application Sec 301 vs. MEP  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: We recommend deletion of the staff interpretation of the applicability of water quality based effluent standards to municipal stormwater discharges presented in the preamble.

Response to: CTRH-002-008

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria with regard to WQBELs and storm water discharges, see response to CTR-031-004c. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs, see response to CTRH-002-006a.

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Subject Matter Code: I-02 Elliott Memorandum

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Comment ID: CTR-001-006  
Comment Author: Law Offices of Alan C. Waltner  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org: Alameda Cnty Clean Wtr Pgm  
Document Date: 09/22/97  
Subject Matter Code: I-02 Elliott Memorandum  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: THE ELLIOT MEMORANDUM SHOULD BE RESCINDED, RATHER THAN CODIFIED, IN THE CALIFORNIA TOXICS RULE

As support for much of the problematic language in the preamble to the CTR, EPA cites a January 9, 1991, memorandum from E. Donald Elliot to Nancy J. Marvel, Region 9 ("Elliot memorandum") which concluded that water quality based numeric effluent limitations apply to storm water discharges.

The Elliot memorandum contains a number of critical flaws and should be rescinded. Any attempt to rely on the Elliot memorandum in the proposed CTR, or to codify the Elliot memorandum, would subject the CTR to challenge based on these flaws.

The Elliot memorandum acknowledges that: "Section 402(p)(3) is clearly intended to draw a distinction between the requirements on industrial and municipal storm water discharges." Elliot memorandum at page 3. (\*8) However, the memorandum derails by assuming an erroneous and contrary conclusion:

Section 402(a)(1) requires that all NPDES permits comply with the applicable provisions of section 301. This includes compliance with appropriate technology-based standards and effluent limits (sections 301(b)(1)(B), 301(b)(2)). Permits must include "any more stringent limitation" necessary to meet WQS. Section 301(b)(1)(C).

Elliot memorandum at page 2. The critical flaw in this conclusion is that Section 402(p) establishes the applicability of Section 301, making Section 301 applicable only to industrial, and not municipal, storm water systems. Section 402(a) does not override, or conflict with, the applicability provisions of Section 402(p). In fact, by referring only to "applicable requirements under section 301," Section 402(a) acknowledges that not all "requirements" of Section 301 are applicable to all NPDES permits issued under Section 402. Among the limitations on such applicability are those set forth in Section 402(p).

The analysis in the Elliot memorandum also ignores a number of critical rules of statutory construction. First, as discussed above, the Elliot memorandum's reading of the statute would result in the retroactive application of Section 301(b)(1)(C) to municipal storm water systems, despite the absence of any evidence of Congressional intent to have created a retroactive system (and, in fact, despite the evidence in Section 402(p) to the contrary).

Second, the Elliot memorandum ignores the maxim that *expressio unius est exclusio alterius* ("to express one thing is to exclude all others"). Sutherland, *supra*, at S 47.23. The maxim applies to the interpretation of Section 402(p) in at least two ways. First, by making MEP-level control the standard for municipal

storm water systems, other control approaches (such as water quality based effluent limitations) are excluded. Second, by making Section 301 applicable only to industrial storm water discharges, the application of Section 301 to municipal storm water discharges is excluded.

The maxim is closely related to the "plain meaning" rule. Here, Section 402(p) plainly states that MS4s are only subject to MEP-level controls. Section 402(p) does not leave open any possibility that MS4s might be subject to more stringent water quality based effluent limitations.

The Elliot memorandum also violates the plain meaning rule by applying the broad principles of the Act to override the statute's express provisions in Section 402(p). Likewise, extrinsic factors not appearing on the face of a statute cannot be used to override the express statutory language or create an ambiguity. Sutherland, supra, at Section 46.04.

The Elliot memorandum vainly seeks salvation by citing *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 842-43 (1984) ("Chevron") in support of its flawed analysis. However, only where the statute is ambiguous does the doctrine described in Chevron come into play. Yet Section 402(p) is unambiguous and exclusive in its application of MEP-level controls to MS4s.

As summarized by the D.C. Circuit in *American Petroleum Inst. v. EPA*, 52 F.3d 1113, 1119 (D.C. Cir. 1995):

Under the Chevron doctrine, a court reviewing an agency's interpretation of a statute it administers must first determine whether Congress has directly spoken to the precise question at issue. If the intent of Congress is clear, the review ends there for the court must give effect to the unambiguously expressed intent of Congress. *Id.* at 842-43. If the court determines that Congress has not directly addressed the precise issue, however, it then goes to the second step of the review to determine whether the agency's interpretation is based on a permissible construction of the statute. *Id.* at 843.

52 F.3d at 1117. Here, the precise issues of: (1) the control technology standard to be met by MS4s, and (2) the applicability of Section 301, have been addressed in the statute. EPA is not, as the Elliot memorandum argues, free to substitute its preferred result for the approach selected by Congress. (\*9)

Rather than addressing these critical flaws in its analysis, the Elliot memorandum spends considerable time pursuing a red herring, arguing that the plain meaning of Section 402(p) (limiting MS4 control standards to the MEP level) would impliedly repeal Section 301 (which EPA argues makes all dischargers subject to more stringent water quality based effluent limitations). The Elliot memorandum argues that this would "read Section 402(p)(3)(B) as overriding 301(b)(1)(C)." Elliot memorandum at page 4. Yet Section 402(p) did not "impliedly repeal" or "override" Section 301; Section 402(p) actually confirmed the operation of Section 301 as applied to industrial storm water systems. The fact that Section 402(p) created a distinction between two categories of dischargers is perfectly ordinary. Congress routinely delineates the applicability of statutes without resulting in "implied repeals" of the delineated provisions. EPA's argument (that making MS4s subject to water quality based effluent limitations exceeding MEP-level controls is necessary to avoid an implied repeal of Section 301) is specious.

The analysis in the Elliot memorandum is flawed and the memorandum's conclusion is only arguably correct as applied to storm water discharges associated with industrial activity. Municipal dischargers need only address water quality standards through MEP-level reductions (\*10) The Elliot memorandum should not be relied upon or codified by EPA in the CTR, but instead should be expressly revoked given its demonstrated lack of merit.

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(\*8) The Elliot memorandum also states that:

Section 402(p) also specified the levels of control to be incorporated into storm water permits. Permits for discharges associated with industrial activity are to require compliance with all applicable provisions of Sections 301 and 402 of the CWA, i.e., all technology-based and water quality-based requirements. Section 402(p)(3)(A). By contrast, permits for discharges from municipal separate storm sewers "shall require controls to reduce the discharge of pollutants to the maximum extent practicable" ("MEP"). Section 402(p)(3)(B)(iii).

Elliot memorandum at page 2.

(\*9) Moreover, the protection of the Chevron doctrine cannot be invoked without including the agency interpretation in a regulation. In Chevron, the Supreme Court found that Congress had left a gap for EPA to fill through rulemaking on the technical definition of "stationary source" under the Clean Air Act, and that EPA's regulations filling that gap were within the permissible range of discretion intended by Congress. Chevron held that where a statute includes a broad definition, the very breadth of the definition implies a delegation to the agency to fill the gap in a manner consistent with the goals and purposes of the statute. Yet the position in the Elliot memorandum has never been incorporated in a regulation; agency staff pronouncements of lesser stature are ineligible for the deference that Chevron would provide.

Finally, EPA's interpretation is inconsistent, both as between the Elliot memorandum and the Interim Permitting Policy, and even within the Elliot memorandum. In a closing footnote EPA acknowledges that:

There may be some municipal separate storm sewer systems which are unable to meet even the three-year compliance date in their permits. The Agency retains the discretion to issue an administrative order fixing a schedule for compliance if compliance is not achieved in that three-year period.

Elliot memorandum at 5. The basis for this inconsistent position contemplating discharges in excess of water quality based effluent limitations is not stated. More importantly, any deference under Chevron is limited where EPA's own interpretation has been inconsistent.

(\*10) The ACCWP also objects to the indirect way in which this issue is being presented. The Elliot memorandum was issued without benefit of any public comment, and no EPA regulation has ever put forward for judicial review the positions taken in the Elliot memorandum. EPA owes it to the state and local agencies that will be affected by this rule to act in a more straightforward manner. If EPA is going to put the position taken in the Elliot memo forward as official policy binding on permit decisions, the agency should do so in a judicially reviewable form so that government agencies that would be affected by the positions taken in the memorandum have a fair opportunity to seek a judicial determination of the validity of that approach.

Response to: CTR-001-006

See response to CTR-040-004.

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Comment ID: CTR-031-001b  
Comment Author: Fresno Metro. Flood Ctrl Dist.  
Document Type: Flood Ctrl. District  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: I-02 Elliott Memorandum  
References: Letter CTR-031 incorporates by reference letter CTR-027  
Attachments? N  
CROSS REFERENCES I-01

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Comment: 1. The preamble of the proposed CTR, and therefore the apparent intended application of the rule, is inconsistent with the Clean Water Act.

Several broad, ambiguous statements in the preamble of the proposed rule imply that Clean Water Act section 301 requirements apply to all dischargers, including municipal stormwater systems. These presumptions must be qualified to recognize the clear intent of Congress and plain language of the CWA, section 402(p) which clearly require municipal storm water dischargers only to adopt controls to reduce pollutants in storm water to- the maximum extent practicable and to eliminate non-storm water discharges. The section's intent is demonstrated through the application of section 301 requirements, and related application of numeric effluent limitations or wasteload allocations in NPDES permits, to industrial stormwater discharges only.

EPA is obviously aware of Congress's intent as to municipal storm water discharge requirements. EPA included in its published draft Phase I municipal storm water regulations a quote from the Congressional Record of October 16, 1986, citing that intent.

Without a clear citation of the provisions of CWA section 402(p), the preamble to the proposed rule appears to be an attempt to codify the Elliot memorandum of January 9, 1991, and to create via this rule a result not authorized by Congress.

In order to eliminate this fundamental legal flaw in the proposed CTR, and eliminate the potential for future misinterpretation and controversy, each of the following statements from the preamble (at a minimum) must be clarified and/or qualified so that they do not appear to override or retract CWA section 402(p).

"When these proposed federal criteria take effect, they will create legally applicable water quality standards ... in California ... for all purposes and programs under the CWA." [p. 42160. This statement must include recognition that for municipal storm water dischargers, the CWA objectives can be addressed through best management practices, implemented to the maximum extent practicable (MEP), as established by CWA section 402(p).]

"CWA section 301(b)(1)(C) ... requires NPDES permits to contain limitations required to implement any applicable water quality standard established in the CWA." [p. 42162. The text should note that section 301 (b) (1) (c) does not apply to municipal storm water dischargers, as established through section 402(p).]

"If a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criteria, the permitting authority must develop permit limits as necessary to

meet water quality standards." (P. 42184. Again, for municipal storm water dischargers, the preamble and CTR must make clear the MS4 permits must: address this CWA objective through the MEP requirement.)

"Point source and nonpoint source allocations are established so that predicted receiving water concentrations do not exceed water quality standards." [p. 42185.1; and

"[NPDES] permits for wet weather point source dischargers must include limits necessary to implement applicable water quality standards, through application of water quality-based effluent limitations or WQBELs." [p. 42186. These two statements are only correct as applied to industrial storm water dischargers; numeric effluent limitations or wasteload allocations can not be legally, reasonably, or practically applied to municipal storm water discharges.]

Response to: CTR-031-001b

See response to CTR-040-004.

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Comment ID: CTR-040-014a

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-02 Elliott Memorandum

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES J

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Comment: RECOMMENDED MODIFICATIONS

To address our concerns, we recommend the following modifications which do not undermine the toxic pollutant control actions envisioned in EPA's economic analysis (e.g., BMPs for stormwater and source control). In fact, some of these recommendations would provide incentives for greater movement toward achieving the water quality criteria than would occur under the Rule as it is currently proposed.

I. Recommendation: Modify the Preamble statement that indicates municipal wet weather discharges must comply with water quality standards or WQBELs (Preamble pages 42186-42187).

\* It is not a requirement of the CWA or EPA that wet weather discharges must meet water quality criteria. If it were, the adverse economic impact on municipal stormwater programs would be enormous. The CWA, at best, is ambiguous on this issue; EPA regulations do not address it; and the Elliott memorandum, which appears to be the primary basis for EPA's position on this issue, is not a legitimate basis for such a position. The Elliott memorandum is an internal EPA memorandum and; therefore, is not an independent interpretation of the CWA. The Elliott memorandum does not constitute EPA policy and is based upon a false premise and an inaccurate reading of the preamble to EPA's 1988 proposed stormwater regulations. The Elliott memorandum contains other erroneous conclusions that have never been applied to municipal stormwater permits (e.g., that municipal stormwater dischargers must comply with water quality standards within three years of permit issuance).

\* EPA has routinely approved municipal stormwater NPDES permits that have not included requirements to comply with water quality standards (e.g., Tulsa, OK; Greensboro, NC; Denver, CO; Portland, OR; Cedar/Green (Seattle), WA; Sarasota County, FL; and Phoenix, AZ).

\* If EPA does not modify the Preamble statement to clarify that municipal stormwater dischargers are not required to comply with these water quality standards, then EPA must include the cost of the structural controls necessary for compliance in its economic analysis and, using these costs, address the requirements of Presidential Executive Order 12866, the Unfunded Mandates Reform Act, and the Regulatory Flexibility Act.

Response to: CTR-040-014a

See response to CTR-040-004.

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Subject Matter Code: I-02a Applying QBELs, Stormwater

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Comment ID: CTR-001-002

Comment Author: Law Offices of Alan C. Waltner

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org: Alameda Cnty Clean Wtr Pgm

Document Date: 09/22/97

Subject Matter Code: I-02a Applying QBELs, Stormwater

References:

Attachments? N

**CROSS REFERENCES**

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Comment: I represent the Alameda Countywide Clean Water Program ("ACCWP") in a variety of matters regarding the ACCWP Storm Water Management Plan ("SWMP") and associated National Pollutant Discharge Elimination System ("NPDES") permit. The ACCWP is a consortium of the fourteen cities in Alameda County, the County, the Alameda County Flood Control and Water Conservation District, and Zone 7 of the Alameda County Flood Control District. Those agencies have joined together in a coordinated approach to storm water management and control, and are the co-permittees under an NPDES permit that recently was reissued by the San Francisco Bay Regional Water Quality Control Board ("RWQCB").

This letter provides comments of the ACCWP on legal issues raised by the August 5, 1997, proposed rule regarding "Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California." 62 Fed. Reg. 42160 ("California Toxics Rule" or "CTR"). By copy of this letter to the State Water Resources Control Board ("SWRCB"), we also provide comments on the SWRCB's parallel implementation rule, proposed September 12, 1997. Comments on the scientific and technical issues raised by the proposed CTR will be submitted separately. (\*1)

## BACKGROUND

Local governments recognize that they have a key role in addressing the contribution of municipal storm water discharges to water quality problems and the ACCWP takes that role very seriously. During the first five years of the program, for example, ACCWP members adopted comprehensive storm water management ordinances and have undertaken a broad range of initiatives to reduce storm water pollution. This program has won numerous awards, including EPA's 1994 National Second Place Award for the Outstanding Municipal Storm Water Control Program.

However, important practical constraints are faced by municipal dischargers which, unlike most industrial sources, cannot simply cease discharging. First is the chronic problem of limited resources, which has been exacerbated by the recent passage of Proposition 218 in California constraining the fee-based revenue sources upon which the ACCWP members generally have relied.

Second, municipal discharges have limited authority over the products and activities that contribute to storm water pollution. For example, home garden care pesticides have been identified as a significant contributor to toxicity in storm water runoff, but municipalities are preempted from regulating those pesticides directly and must rely instead on public information campaigns. Similarly, copper from brake linings is also of concern, but local governments cannot direct the formulation of brake linings.

Third, there are limited opportunities for end-of-pipe storm water discharge controls, and such controls would be both costly and environmentally damaging. See, *In re Citizens for a Better Environment, et al*, SWRCB, WQ 91-03, at 51-52 ("Treatment techniques such as wet-detention basins also require large land areas to contain high volume, variable storm flows. These techniques therefore result in extremely high costs . . . . The impacts of holding large amounts of storm water for treatment may also pose potential adverse environmental impacts".)

Since such storm water treatment plants generally would need to be constructed at the downstream end of storm water flows, they would need to be located adjacent to the San Francisco Bay. However, many of the undeveloped sites adjacent to the Bay are constrained by wetland and endangered species concerns, as well as presenting potentially significant open space, energy, visual, odor, noise and other impacts. Given siting constraints in the substantially developed inner San Francisco Bay Area, it may not even be possible to site the substantial storm water collection, transportation, storage and treatment facilities that might be needed to produce pollutant reductions of the magnitude assumed by EPA in the proposed rule.

As a result of the constraints faced by municipal storm water systems, existing water quality criteria in the San Francisco Basin Plan historically have been implemented in the context of NPDES permits for storm water systems through escalating best management practices ("BMPs"), rather than through numeric effluent limitations ("NELs") or wasteload allocations ("WLAs"). The reason for this is that NELs and WLAs currently are infeasible for municipal separate storm sewer systems ("MS4s").

This implementation policy was first embodied in the 1986 Basin Plan, which retained considerable permitting discretion for nonpoint source controls, and did not require municipal permittees to meet numerical water quality objectives. See, *In re Citizens for a Better Environment, et al*, SWRCB, WQ 91-03, at ii.

The 1995 Basin Plan, at pages 4-14 and 4-15, continued and clarified this implementation policy, stating that:

Since both the sources of pollutants in stormwater discharges and the points of discharge are diffuse, and the methods of reducing pollutants in stormwater discharges are in the development stage, water quality-based numerical effluent limitations are not feasible at this time. Instead, stormwater permits will include requirements to prevent or reduce discharges of pollutants that cause or contribute to violations of water quality objectives . . . . If this first phase does not result in attainment of water quality objectives, the Regional Board will consider permit conditions that may require implementation of additional control measures.

This implementation policy has also been recognized by the State Board, "Storm water permits for MS4s must achieve compliance with water quality objectives, but they may do so by requiring the implementation of BMPS." SWRCB Order 96-13 at 11.

The Basin Plan's approach is consistent with EPA policy, reflected in EPA's August 26, 1996, "Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm water Permits" published at 61 Fed. Reg. 43761 et seq. ("EPA Interim Permitting Policy"). The EPA Interim Permitting Policy:

uses best management practices (BMPS) in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards.

Numeric effluent limitations are not required under the EPA Interim Permitting Policy (\*2)

The current NPDES permit for the ACCWP was developed under this approach, by requiring the dischargers to carry out the SWMP while providing for annual improvements through a work plan process.

Any attempt to make water quality standards for San Francisco Bay directly applicable to municipal storm water dischargers as numeric effluent limitations would conflict with these carefully considered provisions of the Basin Plan and State Board implementation policy.

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(\*1) As you know, several storm water systems have requested additional time to comment on the proposed rule, a request in which the ACCWP has joined. Additional time is particularly important given the interdependence between the CTR and the recently proposed "Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California," ("State Implementation Policy" or "SIP") released by the SWRCB on September 12, 1997, just two weeks before the comment deadline on the CTR. The way in which the CTR is implemented is central to its effects on storm water dischargers, as discussed below. Unfortunately, the State Implementation Policy does not fully correct or moderate the critical problems created by the proposed CTR.

(\*2) See also, EPA, May 3, 1996, "Draft Language for Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits." EPA also indicates in the draft policy that neither the statute nor EPA regulations require numeric effluent limitations in municipal storm water permits, and that BMPs can substitute for such numeric limitations.

Response to: CTR-001-002

See response to CTR-040-004.

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Comment ID: CTR-001-004  
Comment Author: Law Offices of Alan C. Waltner  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org: Alameda Cnty Clean Wtr Pgm  
Document Date: 09/22/97  
Subject Matter Code: I-02a Applying WQBELs, Stormwater  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: THE REGULATION SHOULD MORE CLEARLY CONFIRM THE CURRENT IMPLEMENTATION POLICY, AND CONFLICTING LANGUAGE IN THE PREAMBLE SHOULD BE REMOVED

At the outset, we note that the actual language of the proposed regulation appears to be appropriately qualified, stating that:

The criteria established in this section are subject to the State's general rules of applicability in the same way and to the same extent as are other Federally-adopted and State adopted numeric toxics criteria when

applied to the same use classifications . . . .

Page 42206, Proposed Section 131.38(c). As discussed above, State Board decisions in California and the San Francisco Basin Plan have made clear that MS4s need address WQS only through the implementation of escalating BMPS, all within the framework of the MEP standard.

Unfortunately, the recently proposed State Implementation Policy ("SIP") is inconsistently drafted regarding this point. The state policy does, in Section 5.1, state that:

It is the intent of the SWRCB, in adopting this Policy, that the implementation of priority pollutant criteria/objectives and other requirements of this Policy through NPDES permits for storm water shall be consistent with the requirements of the existing SWRCB and RWQCB storm water program.

Draft State Implementation Policy at 5.1. In Chapter 5.1 of the Functional Equivalent Document ("FED") supporting the SIP, existing policy is correctly described as follows:

The RWQCBs have adopted NPDES storm water permits for MS4s . . . The MS4 permits require the discharger to develop and implement a Storm Water Management Plan whose goal is to reduce the discharge of pollutants to the maximum extent practicable (MEP). MEP is the performance standard specified in Section 402(p) of the Clean Water Act. Components of the storm water management plan address public education and outreach; illicit connection/illegal discharge detection and elimination; fiscal resources; monitoring; and the best management practices (BMPS) which will be utilized. To date, the efforts of the municipalities subject to MS4 permits have been focused on implementation of BMPs to reduce pollutants, rather than on treatment of storm water to remove pollutants.

FED at V-117 (Emphasis Added, Italics in Original). The FED goes on to state that:

Because of the nature of storm water discharges and the typical lack of information on which to base numeric water quality based effluent limitations, it has not been feasible for the SWRCB to establish numeric effluent limitations for storm water permits.

FED at V-118. The policy alternative selected in the proposed SIP is described as follows:

The existing NPDES storm water permits contain narrative objectives, rather than the numeric limits found in the more conventional NPDES permits. Compliance with these narrative objectives is a function of the dischargers' timely and effective implementation of the management practices and programs identified in the storm water management plan (MS4 permits) or the storm water pollution prevention plan (industrial/construction permits).

FED at V-119.

Despite this carefully drafted language in the FED, general statements included in the SIP suggest that WQS may need to be translated into NELs or WLAS, regardless of whether those NELs or WLAs can be satisfied by MEP-level controls. Draft SIP at 2, 910. This would violate the approach of Clean Water Act Section 402(p), as well as requirements of the Porter Cologne Act described below. (\*5)

We request confirmation of the statements in the proposed rulemaking that MS4s only need to address WQS through the adoption of BMPs reflecting MEP-level controls, and that EPA does not intend that the state apply the proposed WQS as numeric effluent limitations or as the basis for wasteload allocations. Specifically, we request that EPA include language similar to that quoted above from the FED in the final

rule, and/or the preamble to the final rule.

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(\*5) The SIP at page 10 has particularly problematic language which states that:

Regardless of which method is used for deriving water quality-based effluent limitations, the calculated water quality-based effluent limitations shall be compared to the technology-based effluent limitations for the pollutant, and the most protective of the two types of limitations shall be included in the [permit].

This language could be read to suggest that NELS or WLAs could override the MEP standard of Section 402(p), which would violate both the Clean Water Act and Porter-Cologne Act.

Response to: CTR-001-004

See response to CTR-040-004.

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Comment ID: CTR-020-001

Comment Author: City of Stockton

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: I-02a Applying WQBELs, Stormwater

References:

Attachments? Y

**CROSS REFERENCES**

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Comment: City of Stockton, California Comments on the Proposed "California Toxics Rule" 62 Fed. Reg. 42160-42207 (August 5, 1997)

The City of Stockton (the "City" or "Stockton") operates both wastewater and storm water facilities which discharge to waters of the United States. Consequently, the City is directly impacted by the Environmental Protection Agency's ("EPA" or the "Agency") proposed rulemaking. The following provides the City of Stockton's comments on the California Toxics Rule ("CTR" or the "rule") (62 Fed. Reg. 42160-42207).

As was the case with the prior National Toxics Rule ("NTR"), this proposal only addresses toxic pollutants listed pursuant to Section 307(a) of the Clean Water Act ("CWA") (approximately 126 pollutants). Conventional and non-conventional pollutants (such as ammonia, chlorine, iron, aluminum and color) are not addressed under this rule proposal. In addition, this proposal does not address whole effluent toxicity. The CTR addresses not only applicable water quality criteria (acute, chronic and human health) but also implementation methodologies such as the appropriate design instream flows to apply in developing permit limits (e.g., 7/Q/10, 30/Q/5, harmonic mean). Based upon the preamble to the proposed rule, the proposed water quality criteria will apply to both point source and non-point source discharges such as storm water. Due to the qualifying language contained in the rule, it is not apparent that criteria application will be uniform throughout the state and will depend somewhat on existing Basin Plan provisions.

Contrary to the rule preamble, the City does not believe that this regulatory proposal reflects the latest scientific information regarding proper application of the proposed criteria. Due to the expansive application of human health-related criteria to all streams designated as MUN (which is a default use designation under the Basin Plans) and the failure to allow site-specific modification to reflect actual use conditions, the potential receiving waters classified as exceeding human health criteria will be greatly exaggerated (e.g., stringent water ingestion and fish consumption-based criteria will be applied to ditches and intermittent streams). Consequently, the cost impact associated with this rule will be significantly greater than it otherwise should be.

In particular, the application of the criteria to storm water discharges will produce widespread non-compliance with the proposed criteria for common metals such as zinc, copper, and lead and will trigger the need for extensive implementation of costly technologies, unrelated to actual environmental needs. Therefore, the City respectfully submits that the CTR needs to be restricted in scope, updated to include more recent information regarding the expected impact of pollutants on the environment, and revised to allow utilization of relevant site-specific information to avoid misapplication of limited local resources. The following presents an overview of the proposed rule and identifies issues of concern from both storm water and wastewater discharge perspectives.

Response to: CTR-020-001

See response to CTR-040-004.

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Comment ID: CTR-020-022

Comment Author: City of Stockton

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: I-02a Applying WQBELs, Stormwater

References:

Attachments? Y

**CROSS REFERENCES**

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Comment: VI. Application of Criteria to Wet Weather Flows is Inappropriate

The CTR specifically states that all toxics criteria apply to wet weather flow events and storm water discharges. EPA further states that it is unlikely that specific effluent limits will be established because such limits are "infeasible." Regardless of EPA's position concerning the ability to establish specific effluent limits, it is apparent that application of the proposed criteria to storm water discharges either through effluent limits or receiving water limits will place virtually all storm waters in violation of the CTR. Thus, municipalities and water conservation districts will be exposed to citizen suits and civil penalties under state and federal law. As a result, major expenditures of local resources would be required to eliminate violations of the proposed criteria, even where it is apparent that there is no actual environmental harm. Because the rule fails to assess the significant economic impact associated with application of the criteria to storm waters and there is no information in the record supporting that it is necessary to meet the criteria in storm waters to adequately protect the environment, the CTR should specifically exempt storm waters from the criteria application. The legal and technical basis for this request is discussed below.

Few, if any, of the EPA criteria were designed to apply to storm water-related events. The criteria assume that extended exposure to the pollutants of concern will occur, that sensitive organisms are present, and that the form of pollutant and water chemistry used to conduct the laboratory studies underlying the criteria are similar to the receiving water conditions. All of these assumptions are known to be in error for storm water discharges, as follows:

- \* Exposures will be intermittent, variable and generally far shorter than the exposure used to establish the acute criteria (96 hours) and certainly far less than any chronic or human health based criteria (30 days to 70 years). EPA's "fast acting toxicant" evaluations confirm that short duration exposures may often be an order of magnitude higher than longer term exposures without causing adverse impacts (see, Section II.A.4.a.1 above). Thus, direct application of the criteria (with or without a mixing zone) will produce unnecessarily restrictive requirements.

- \* Water chemistry in storm water is dramatically different than the typical pristine water used to assess pollutant impacts in the criteria tests ( e.g., Lake Superior water). EPA has routinely acknowledged that water chemistry significantly impacts the effect of pollutants in the environment, and elevated TOC and TSS levels will significantly mitigate the toxicity of a wide range of metals and organics. (See, 62 Fed. Reg. 42175). The National Guidelines require modification of the criteria when it is apparent that the criteria will be overprotective as is the case in this circumstance.

- \* Sensitive organisms such as daphnids and salmonids, which often drove the criteria document calculations (e.g., metals criteria) cannot inhabit most receiving waters and certainly will not be present in intermittent streams. Turbulent high flow conditions alone would destroy fragile daphnids. Applying criteria to protect species that cannot possibly exist in the receiving waters is clearly unnecessary.

- \* Guidance documents related to the translation of water quality criteria into permit limitations are not designed to address intermittent wet weather conditions. Criteria modification procedures mandated to apply to metals (WER Guidance) cannot be applied to short term, highly variable, intermittent exposure conditions without a major restructuring of the guidance documents.

- \* Permitting guidance recommended for usage with the CTR (e.g., (1991) TSD) does not have a wet weather analysis component and the statistical procedures are not applicable due to the lack of continuous discharge and infrequency of discharge conditions. The only comparable information contained in the TSD relates to mixing zones wherein the TSD states that environmental impacts cannot be properly assessed unless the time period of exposure is accurately considered due to the known dose/response relationships of various pollutants. EPA has also acknowledged that "[T]he human health risks of a substance cannot be determined with any degree of confidence unless a dose/response relationship is quantified" (62 Fed. Reg. 42175). As data on the short term dose/response is not included in the published criteria and the TSD procedures do not specify how to assess intermittent short term pollutant exposures to compare such exposures to longer term criteria, there is no objective basis upon which to apply even the acute criteria to storm water events.

Given the lack of experience of permitting authorities in properly applying water quality criteria to short term events, it is essential that EPA clarify that the proper application of criteria to wet weather events must account for the time period of exposure, the organisms present, and the different characteristics of the water in comparison to EPA laboratory studies. Absent the establishment of specific procedures to ensure that the criteria will be properly applied to the unique circumstances of storm events, EPA should not extend application of the criteria to wet weather events.

Application of metals criteria to storm water discharges will be particularly problematic as EPA is now recommending that the actual hardness of the receiving water be used and there is no assurance that dilution with receiving waters will be considered. Most of EPA's metals criteria assume that a metal becomes infinitely toxic as hardness approaches zero. This is not based on a detailed database of organism sensitivity at low hardness but is an artifact of the hardness/toxicity model that reasonably reflects the toxicity of metals under typical hardness conditions (50-200 mg/l). Storm water events, however, do not fit within the typical conditions that formed the basis of the current metals criteria.

The hardness of rain water is quite low and will result in extremely low limits if applied to storm waters. Hardness levels increase as the storm water contact time with the ground increases. However, prior to mixing with surface waters, it is not unusual to encounter hardness values in the 20 mg/l range. This produces extremely low acute and chronic criteria for a host of metals, most notable copper, zinc, and lead. For these parameters, the calculated criteria will range from less than 1 ppb to 30 ppb. Thus, application of the CTR criteria to storm waters would lead to the conclusion that most storm waters are an acute toxicity threat to the environment even though a more accurate application of the criteria would lead to an opposite conclusion for metals. This is not a minor difference in results and, unless corrected, will trigger the need for expensive biological testing to prove the obvious -- metals in storm waters are not toxic.

In addition to the concerns regarding application of metals criteria, it is apparent that there is no rational basis for applying long term human health criteria to short term storm water events. EPA should clarify that long term human health-based criteria (which assume 30 day to 70 year exposures) often based on long term bioaccumulation do not apply to short term storm water discharge events. This will prevent misapplication of the criteria that would otherwise occur under the Agency's proposal.

In summary, EPA should revise the scope of the CTR to specify that the criteria do not apply to storm water situations and that site-specific decisions on the need for reduction of pollutants in storm waters will be conducted.

Response to: CTR-020-022

See response to CTR-040-004.

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Comment ID: CTR-087-002

Comment Author: Morrison & Foerster LLP

Document Type: Storm Water District

State of Origin: CA

Represented Org: SCVURPPP

Document Date: 09/24/97

Subject Matter Code: I-02a Applying WQBELs, Stormwater

References: Letter CTR-087 incorporates by reference letters CTR-001 and CTR-027

Attachments? N

**CROSS REFERENCES**

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Comment: Moreover, the Agency's position on the application of WQBELs to municipal stormwater discharges rests on a flawed internal opinion circulated from the General Counsel's office to Region 9's legal counsel in January 1991 (the so-called "Elliot Memo") which ignores the plain language of the statute and simply assumes that Congress's clear language was ambiguous. It has never before been

endorsed by the Administrator or been subjected to public comment process or the potential for judicial review. Therefore, if EPA wishes to try to make the Elliot Memo the law through the CTR, it first needs to go to Congress to amend the Act's unambiguous NPDES permitting requirements for municipal stormwater discharges.

Response to: CTR-087-002

See response to CTR-040-004.

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Subject Matter Code: I-03 Applicability of Criteria

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Comment ID: CTR-007-003  
Comment Author: Port of San Diego  
Document Type: Port Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: I-03 Applicability of Criteria  
References:

Attachments? N

**CROSS REFERENCES**

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Comment: 2. Under the proposed rule, it is unclear whether Best Management Practices or the water quality criteria will be used to assess stormwater discharges.

Response to: CTR-007-003

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of the scientific validity of CTR criteria with regard to WQBELs and storm water discharges, see response to CTR-031-004c. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs, see response to CTRH-002-006a. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004.

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Comment ID: CTR-013-005  
Comment Author: County of Los Angeles  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: I-03 Applicability of Criteria  
References: Letter CTR-013 incorporates by reference letter CTR-027

Attachments? N

**CROSS REFERENCES**

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Comment: In addition, we would like to emphasize the following concerns which greatly impact the Los Angeles County Stormwater Program:

5. The proposed criteria were established based on typical, steady flow wastewater discharges, and may not be applicable to wet weather flows. The USEPA in Washington is currently reviewing the applicability of present water quality criteria to wet weather discharges. Given the quantity of stormwater discharges, flow conditions in the receiving waters, the numerous discharge points, and variability in discharge quality, there is no published scientific approach for assessing the impacts of such discharges on designated uses.

We recommend that the rule not apply to MS4s until the USEPA has completed its study on the applicability of water quality criteria to MS4 discharges.

Response to: CTR-013-005

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs, see response to CTRH-002-006a. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004.

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Comment ID: CTR-027-006

Comment Author: California SWQTF

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-03 Applicability of Criteria

References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040

Attachments? N

CROSS REFERENCES

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Comment: 6. The proposed criteria were established based on typical, steady flow wastewater discharges, which may not be applicable to wet weather flows. USEPA in Washington is currently reviewing the applicability of present water quality criteria to wet weather discharges. Given the quantity of stormwater discharges, flow conditions in the receiving waters, the numerous discharge points, and variability in discharge quality, there is no published scientific approach for assessing the impacts of such discharges on designated uses.

Recommendation: The rule should not apply to MS4s until USEPA has completed its study on the applicability of water quality criteria to MS4 discharges.

Response to: CTR-027-006

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of the scientific validity of CTR criteria with regard to WQBELs and storm water discharges, see response to CTR-031-004c. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs, see response to CTRH-002-006a. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004.

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Comment ID: CTR-031-003b

Comment Author: Fresno Metro. Flood Ctrl Dist.

Document Type: Flood Ctrl. District

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-03 Applicability of Criteria

References: Letter CTR-031 incorporates by reference letter CTR-027

Attachments? N

CROSS REFERENCES C-21

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Comment: If the proposed rule is carefully and sufficiently modified to affirm a commitment by EPA to effect only its Congressional authorization as established by CWA section 402(p), then EPA's failure to assess municipal storm water dischargers' ability to attain the proposed standards and associated economic and environmental impacts may be set aside at this time. However, if EPA persists in maintaining the CTR as drafted in this regard, the ambiguities presented in the preamble demand serious consideration and analyses as follows.

a. Many of the criteria are not attainable or scientifically valid with regard to municipal stormwater dischargers, nor is the proposed approach consistent with an appropriate delegation of authority to the State.

i. Attainability of Standards

The statutory premise of the CWA is to provide water quality for protection and propagation of aquatic life, wildlife, and recreation wherever attainable. The CWA therefore establishes a reality test in that objectives must be attainable.

The proposed CTR criteria can not be attained by municipal storm water dischargers. The District treats through detention and retention all but 1% of its urban runoff on an annual average basis. Nonetheless, its urban runoff discharges, after detention, would exceed proposed dissolved copper, lead, and zinc criteria. Concentrations would need to be reduced by 67%-95% to meet the proposed chronic criteria. No storm water best management practices, including conventional end-of-pipe storm water treatment facilities (i.e., detention systems), are believed to be able to achieve these levels of reductions for these constituents.

Response to: CTR-031-003b

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs, see response to CTRH-002-006a.

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Comment ID: CTR-037-008

Comment Author: Hampton Roads Sanitation Dist.

Document Type: Sewer Authority

State of Origin: VA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-03 Applicability of Criteria

References:

Attachments? N

## CROSS REFERENCES

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Comment: 8. EPA states that NPDES permits for wet weather point source discharges must include limits in order to implement water quality standards, and that the water quality criteria presented in the rule will be used to develop WQBELs in NPDES permits for these sources. EPA does not address the exposure issues associated with using surface water quality standards developed using tests lasting 2-60 or more days to draw conclusions on discharges lasting minutes to hours. WERF has conducted research recently which shows clearly that the impact due to exposure of minutes is orders of magnitude less than the impact observed following days of exposure. Use of water quality standards to regulate most stormwater discharges is overly stringent and protective, which will ultimately result in the expenditure of resources on controls which offer no benefit. EPA should be responsible for justifying the use of water quality standards with stormwater discharges with data and illustrating why they are necessary to protect and support designated uses. The use of these standards under these conditions is arbitrary, at best.

Response to: CTR-037-008

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of the scientific validity of CTR criteria with regard to WQBELs and storm water discharges, see response to CTR-031-004c. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs, see response to CTRH-002-006a. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004.

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Comment ID: CTR-061-005a

Comment Author: G. Fred Lee & Associates

Document Type: Academia

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-03 Applicability of Criteria

References:

Attachments? Y

CROSS REFERENCES C-17

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Comment: Additional Comments

Presented below are some specific comments on statements made in the proposed CTR Federal Register.

Page 42160, third column, near the bottom, municipal stormwater dischargers should be added to the list of NPDES dischargers who have an interest in this rule. If anything, they probably will be affected more than any other entity.

Page 42161, third column, first paragraph, states,

"Numeric criteria for toxic pollutants allow the State and EPA to evaluate the adequacy of existing and potential control measures to protect aquatic ecosystems and human health. Numeric criteria also provide

a more precise basis for deriving water quality-based effluent limitations in National Pollutant Discharge Elimination System (NPDES) permits to control toxic pollutant discharges."

That statement is somewhat unreliable and misleading.

While it is bureaucratically simpler for regulatory agencies to numerically compare concentrations found in an effluent or in ambient waters with a chemical concentration-based water quality criterion, the claim made in the quoted statement is not necessarily true. In fact, rarely is the exceedance of numeric criteria a reliable basis for assessing the impacts of constituents on human health or the environment. While it may be more precise, it can be highly inaccurate. This is one of the areas that needs to be corrected by the US EPA where biological effects-based approaches are used, rather than chemical-based approaches for regulating such impacts as aquatic life toxicity for potentially toxic constituents.

Response to: CTR-061-005a

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of the scientific validity of CTR criteria with regard to WQBELs and storm water discharges, see response to CTR-031-004c. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs, see response to CTRH-002-006a. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004.

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Comment ID: CTR-096-001a

Comment Author: City of Modesto

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-03 Applicability of Criteria

References:

Attachments? N

CROSS REFERENCES C-17

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Comment: Thank you for the opportunity to comment on the proposed California Toxics Rule. The City's comments are related to five main concepts:

1. The numerical standards are ambiguous or incomplete to address the variety of operating conditions under which discharges to waters of the United State occur.

Specifically, the City submits the following comments:

A. California's receiving waters have a very wide diversity of hydraulic and environmental conditions. The numerical standards do not take into account the wide range of rainfall patterns, storm durations, irrigation flows and power generation flows that are the current aquatic habitat. California's rivers are highly regulated, highly managed. The proposed regulations neither address this variety, nor provide a means by which numerical standards can be readily developed to address such variety.

B. The California Toxic Rule presents new water quality standards for the State of California. This rule

presents water quality standards for all water bodies within the state. Water quality standards as presented in this rule would apply to all environmental conditions (dry and wet weather). During wet weather, conditions in the receiving streams can be extremely variable due to the quality and quantity of stormwater. Treatment plants generally have hydraulic capacity to process twice the average dry weather flow received. Water quality standards were developed based on dry weather conditions. Therefore, numerical water quality standards should not need to be achieved during storm events. If water quality standards need to be achieved during storm conditions, it is suggested that new standards be developed to account for the changes in environmental conditions.

Response to: CTR-096-001a

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of the scientific validity of CTR criteria with regard to WQBELs and storm water discharges, see response to CTR-031-004c. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs, see response to CTRH-002-006a. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004.

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Comment ID: CTRE-002-004

Comment Author: G. Fred Lee & Associates

Document Type: Academia

State of Origin: CA

Represented Org:

Document Date: 09/18/97

Subject Matter Code: I-03 Applicability of Criteria

References:

Attachments? N

CROSS REFERENCES

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Comment: As you may or should know, the urban stormwater dischargers are not claiming that there are no water quality problems associated with their discharges. It appears that there may be real water quality problems in urban stormwater discharges due to chemicals, such as the organophosphate pesticides principally known at this time, diazinon and chlorpyrifos, which the US EPA either, in the case of chlorpyrifos for which there is a water quality criterion, has failed to implement a criterion or, for diazinon, has yet failed to develop a criterion. I understand that finally after years of delay where it has been well known by the US EPA that diazinon was causing widespread aquatic life toxicity, the Agency is now beginning again to formulate a water quality criterion for this chemical.

Even with the development of these criteria, however, it does not mean that they would be enforced. The chlorpyrifos situation is a prime example of where there is well-known aquatic life toxicity in many communities' stormwater runoff, yet the Agency, including US EPA Region 9, has failed to admit publicly that there is a problem, much less act to control the problem. A situation could readily develop where stormwater dischargers are required under CTR to spend massive amounts of public funds building "50 Oakland Coliseums" just to store stormwater runoff in Alameda County from a storm magnitude that occurs more frequently than once in three years because of administrative exceedances of several CTR-regulated heavy metals in the stormwater runoff which have been repeatedly found to be in non-toxic, non-available forms, including the dissolved forms. yet could have the treated stormwater discharge to San Francisco Bay be highly toxic due to unregulated or inadequately regulated

organophosphate pesticides. This is an artifact of the inappropriate approaches used by the Agency of focusing on chemicals, rather than chemical impacts, i.e. potential toxicants rather than toxicity.

Response to: CTRE-002-004

The scope of today's rule is to establish numeric criteria to bring California into compliance with CWA Section 303(c)(2)(B): Section 303(c)(2)(B) requires adoption of numeric criteria for priority toxic pollutants contained in CWA Section 307(a) for which EPA has issued Section 304(a) criteria guidance if those pollutants could reasonably be expected to interfere with the designated uses of state waters. The promulgation, implementation, and control of pollutants that are not identified as priority toxic pollutants (i.e. those pollutants that are not contained in CWA Section 307(a) ) are outside of the scope of today's rule. Diazinon and chloropyrifos, the pollutants referenced by the commenter, are not contained toxic pollutants under CWA Section 307(a) and are thus outside of the scope of this rulemaking.

However, EPA notes that the CWA and Water Quality Standards Regulation requires all states, including California, to adopt water quality standards (which includes water quality criteria) sufficient to protect the designated uses of their waters. This requirement necessitates State adoption of criteria that are not included in the CWA Section 307(a) list. In addition, states may also use their narrative criteria to prevent toxic effects caused by pollutants that are not identified as priority toxic pollutants, such as those pollutants mentioned by the commenter, in instances where a state does not have numeric criteria in place or to supplement the numeric criteria

For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs, see response to CTRH-002-006a. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004. See also response to CTR-001-003.

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Comment ID: CTRH-001-007  
Comment Author: Doug Harrison  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Fresno Met. Flood Control  
Document Date: 09/17/97  
Subject Matter Code: I-03 Applicability of Criteria  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Even if it could be successfully argued that the CTR as drafted is applicable to the stormwater dischargers, we believe that the criteria is flawed. During one recent meeting of the Water Quality Standards Work Group of FACA, EPA headquarters staff made a presentation that reminded us of the language of the Act, which seems to establish a test of attainability -- a reality test, if you will -- that the objectives must be attainable.

We also have extensive data from the NURP program and the NPDES permits that suggest that through monitoring it was demonstrated that the criteria are not attainable, the concerns that you heard from the

two previous speakers. It is documented that episodic stormwater flows vary greatly the ability to handle -- in things like recovery times and so forth.

And I would also note a 1992 memo that was produced by Tudor Davis of the Office of Science and Technology, reporting on the CSO Wet Weather Panel that focused on some of these, and the fact that while they concluded it was not necessarily appropriate to produce a separate set of criteria just for wet weather conditions, that what the criteria did have to do is to be applied to both duration and the frequency and magnitude -- frequency and magnitude.

The EPA began this work shortly thereafter and brought to the Urban Wet Weather FACA the individual who is doing this work of application to the aquatic life criteria of these variables. The criteria analysis was to have been completed by September/October of this year.

We have to conclude that if the criteria as proposed in the current CTR proposal is in fact to be interpreted to include stormwater, that there are these inconsistencies that need to be addressed.

Certainly there's awareness at EPA of the limitations of BMP programs regarding attainment of CWA objectives and criteria.

The Phase II draft rule that is now before OMB for review provides for a complete comprehensive stormwater program evaluation in 13 years from the date of the adoption of that final rule, which is scheduled for March of '99. And that program definition included Phase I to Phase II programs, and goes on to state that there should be no additional BMPs required until that evaluation is completed.

It appears to limit flexibility -- would tend to limit state flexibility. We have concern about that, and also that it appears to limit the compliance schedule to 5 years. EPA has already cited the need to go to a 10-year evaluation after two permit terms for the entire stormwater program.

We have run models in our community FMFCD stormwater system. We capture 90 percent of all runoff in the community and keep it. It never gets to the waters of the U.S. The remaining 10 percent, we treat 90 percent of it through extensive detention.

Response to: CTRH-001-007

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs, see response to CTRH-002-006a. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004.

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Comment ID: CTRH-001-061  
Comment Author: Fred Lee  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org:  
Document Date: 09/17/97  
Subject Matter Code: I-03 Applicability of Criteria  
References:

Attachments? N  
CROSS REFERENCES

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Comment: MR. LEE: My name is Fred Lee, L-E-E.

I want to focus on one aspect of the discussions today, and that is the urban stormwater and highway stormwater runoff issues. These are of concern to me. I'm particularly concerned about this issue in applying these criteria to regulating stormwater runoff and the ultimate goal mandated by the Clean Water Act.

I have been involved in criteria and standards development since the 60s, I helped EPA develop its current approach as a peer reviewer for agencies for the so-called gold book criteria, which is still basically the approach being used today to promulgate these criteria.

There is no question, if you understand how the current criteria were developed, that they tend to significantly over regulate urban stormwater runoff. This will result in massive expenditures as we approach the goal of achieving water quality standards in stormwaters.

This is a well-known problem. Everyone knows this is a problem, but everybody says, "Well, apply BMPs for a while." And that's no man's land. what's that really mean and what's MEP mean and so forth?

When I looked at that rule, I said we really missed the boat by not discussing what it's going to cost to apply these criteria to urban stormwater as an ultimate goal where you have no measure for exceedence for five years. That's Clean Water Act requirements.

We've got to get these figures on the table and we've got to start to understand where we're heading for as a goal with respect to applying these criteria as ultimate goals for urban stormwater.

It's -- there may be situations it's 1 to 2 dollars per person per day in the regulated communities. That's the kind of cost we're talking about for achieving Clean Water Act requirements, with no more than one exceedence for constituents, as we've heard, such as copper and lead, zinc, et cetera -- 1 to 2 dollars per person.

We don't have lands to store this water in order to provide treatment, so it's -- to me, it's a matter for EPA as part of this rule to do a proper economic analysis of what it's going to cost the public actually to process ever-increasing BMPs until we get to the goal.

It's a serious mistake. We're talking about a massive bill for this country. And what are we going to get? We'll get a lot of over regulation because criteria are not applicable to this kind of situation.

We need different kind of criteria, and this has been well discussed; we understand that needs to be done obviously.

Response to: CTRH-001-061

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs, see response to CTRH-002-006a. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality

criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004.

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Comment ID: CTRH-002-024

Comment Author: Gary Hildebrand

Document Type: Public Hearing

State of Origin: CA

Represented Org: L.A. Dept of Public Works

Document Date: 09/19/97

Subject Matter Code: I-03 Applicability of Criteria

References:

Attachments? N

**CROSS REFERENCES**

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Comment: My name is Gary Hildebrand. I'm with the Los Angeles County Department of Public Works, and I'm the stormwater permit program manager for Los Angeles County. I'm here representing the principal permittee for the L.A. County Municipal Stormwater Permit Program which is the largest municipal stormwater permit program in the nation. We have over 86 permittee cities in our program. We cover over a 3,000-square-mile watershed which contains like 9 million people. We also have a 3,000-mile-plus urban storm drain network that permittees must maintain.

First, I'd like to express our support and agreement with the comments expressed at the public hearing yesterday in San Francisco by Mr. Bob Hale, the chairman of the California Stormwater Quality Task Force, and also the other municipal stormwater program representatives, both there and at the hearing today.

Then I would like to provide some additional comments that are concerned to our municipal stormwater program. First off, compliance with the proposed criteria for stormwater discharges may be impractical. The proposed criteria was established for typical steady flow point source discharges and are not applicable to the wet weather flows. Quantity of stormwater discharges, slow conditions and receding waters, the numerous discharge points and the variability in discharge quality, there is no published scientific approach to determine the compliance with water quality criteria for stormwater runoff from a municipal storm drain system. Until such an approach is accepted and published by a regulatory agency, it should not be applicable to municipal stormwater discharges.

Response to: CTRH-002-024

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of the scientific validity of CTR criteria, see response to CTR-031-004c. For a discussion of the relationship between criteria, standards, effluent limitations and implementation costs, see response to CTRH-002-006a. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to CTR-013-003 and CTR-040-004.

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Subject Matter Code: I-04 Site-Specific Criteria

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Comment ID: CTR-013-006a  
Comment Author: County of Los Angeles  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: I-04 Site-Specific Criteria  
References: Letter CTR-013 incorporates by reference letter CTR-027

Attachments? N

CROSS REFERENCES C-24e

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Comment: In addition, we would like to emphasize the following concerns which greatly impact the Los Angeles County Stormwater Program:

6. The proposed criteria will apply to all inland surface waters and enclosed bays and estuaries, regardless of the designated or attainable uses for a water body. This is of particular concern for waters that only have flows during wet weather events or that are point source effluent dominated water bodies. Blanket application of water quality criteria to all waters without designated uses is inconsistent with Federal and State water quality laws. Water quality standards are made up of two components--designated uses and the appropriate criterion to ensure the designated use can be achieved. Assigning criteria to a water body without first considering the designated uses is inappropriate and could result in over restrictive, unnecessary permit limits potentially resulting in significant compliance costs to a discharger.

It is common in California for urban stormwater runoff discharges to be the primary or only source of waters to urban creeks and waterways, that is, there would be little or no flow during most of the year were it not for urban stormwater or other point source discharges. Given the potential compliance problems for stormwater discharges for certain constituents (even after a fully implemented BMP program), a municipality could be forced to remove stormwater discharges from the creek. The costs would be significant and the benefit little, if any. In fact, the removal of these discharges would be environmentally damaging to aquatic life and wildlife that were supported by the effluent/runoff dependent waters.

Therefore, the proposed rule should be revised to avoid blanket application of the proposed criteria to all surface waters and to require appropriate beneficial and attainable uses of all waters be determined prior to imposing water quality criteria in the water body. The rule should also be revised to implement separate and distinct water quality criteria for water bodies that are primarily effluent or runoff-dependent.

Response to: CTR-013-006a

See response to CTR-040-004.

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Comment ID: CTR-027-007a  
Comment Author: California SWQTF

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-04 Site-Specific Criteria

References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040

Attachments? N

CROSS REFERENCES C-24e

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Comment: 7. The proposed criteria will apply to all inland surface waters and enclosed bays and estuaries regardless of the designated or attainable uses for a water body. This is of particular concern for waters that only have flows during wet weather events, or that are point source effluent dominated water bodies. Blanket application of water quality criteria to all waters without designated uses is inconsistent with federal and state water quality laws. Water quality standards are made up of two components - designated uses and the appropriate criteria to ensure the designated use can be achieved. Assigning criteria to a water body without first considering the designated uses is inappropriate and could result in overly restrictive, or unnecessary permit limits, potentially resulting in significant compliance costs to a discharger.

It is common in California for urban stormwater runoff discharges to be the primary or only source of waters to urban creeks and waterways; that is, there would be little or no flow during most of the year were it not for man's activities. Given the potential compliance problems for stormwater discharges for certain constituents (even after a fully implemented BMP program) a municipality could be forced to remove stormwater discharges from the receiving water. The costs would be significant and the benefit little, if any. In fact, the removal of these discharges would be environmentally damaging to aquatic life and wildlife that were supported by the effluent/runoff dependent waters.

Recommendation: The proposed rule should be revised to avoid blanket application of the proposed criteria to all surface waters, and to require appropriate beneficial and attainable uses of all waters be determined prior to imposing water quality criteria in the water body. The rule should also be revised to implement separate and distinct water quality criteria for water bodies that are primarily effluent or runoff dependent waters. An example of such flexibility is the use of a less stringent cancer risk factor such as 10E-4 or 10E-5 for the human health criteria for effluent dominated streams.

Response to: CTR-027-007a

See response to CTR-040-004.

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Comment ID: CTRH-002-025

Comment Author: Gary Hildebrand

Document Type: Public Hearing

State of Origin: CA

Represented Org: L.A. Dept of Public Works

Document Date: 09/19/97

Subject Matter Code: I-04 Site-Specific Criteria

References:

Attachments? N

CROSS REFERENCES

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Comment: The next and the proposed criteria will apply to Inland Surface Waters, Enclosed Bays, and Estuaries regardless of the designatable or attainable uses for water -- this is a particular concern that only flows during wet weather events or that are dominated water bodies.

There are many situations in our area where early stormwater runoff discharges to local creeks and waterways are the primary or only source of waters. There would be flow under most of the year were it not for discharges. Given the stormwater discharges and compliance problems with certain decisions, this would be even after a fully implementing BMP program. The municipality could be forced to remove the discharge from the creek constantly without benefit. In fact, removal of these discharges could be environmentally unsound given the wildlife that are supported by the effluent and/or runoff-dependent waters.

Response to: CTRH-002-025

The commenter feels that in situations where a municipality is unable to achieve compliance with CTR in an intermittent stream, they will be forced to continuously remove the discharge from the stream. EPA does not mandate removal of runoff as part of a storm water management plan, rather the upgrading / addition of BMPs to lower pollutant loadings. Commenter is right in that wildlife may be dependent on the intermittent flows which are totally of storm water origin. But it must be noted that the flora and fauna may also be similarly imperiled by toxics contained in the storm water effluent.

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Subject Matter Code: I-05 Compliance Schedules

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Comment ID: CTR-013-007a  
Comment Author: County of Los Angeles  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: I-05 Compliance Schedules  
References: Letter CTR-013 incorporates by reference letter CTR-027

Attachments? N

CROSS REFERENCES G-02

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Comment: In addition, we would like to emphasize the following concerns for which greatly impact the Los Angeles County Stormwater Program:

7. The proposed rule provides only a five-year compliance schedule to achieve compliance with the proposed water quality criteria. Again, setting aside the issue of whether water quality standards actually apply to municipal stormwater discharges, municipal stormwater programs are long-term, BMP-based programs. Because of this, it will take many years for a municipality to realize any water quality benefits in the receiving waters. The preamble to the proposed rule addresses all wet weather discharges together in one discussion. Municipal stormwater programs should be discussed and treated separately from all other wet weather and point source discharges. These are unique programs and cannot be placed in a "one-size fits all" regulatory program. The proposed rule needs to account for the nature of stormwater discharges by allowing more time for the MS4 long-term, BMP, source control program approach to take place for controlling pollutants in stormwater discharges.

We recommend that the rule be revised to provide a longer compliance schedule and to provide more flexible regulatory relief for MS4 dischargers who have fully complied with the MEP discharge standards but cannot achieve compliance within the established compliance schedule. At a minimum, the CTR should follow the recommendation of the State Task Force on the Inland Surface Water Plan to provide a 15-year compliance schedule.

Response to: CTR-013-007a

See response to CTR-030-004c.

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Comment ID: CTR-027-008a  
Comment Author: California SWQTF  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: I-05 Compliance Schedules  
References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040  
Attachments? N  
CROSS REFERENCES G-02

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Comment: 8. The proposed rule provides only a five-year compliance schedule to achieve compliance with the proposed water quality criteria. Again setting aside the issue of whether water quality standards actually apply to municipal stormwater discharges, municipal stormwater programs are long term BMP based programs. The proposed rule fails to recognize this, addressing all wet weather discharges together in one discussion. Municipal stormwater programs should be discussed and treated separately from all other wet weather and point source discharges. These are unique programs and cannot be placed in a "one-size fits all" regulatory program. The proposed rule needs to account for the nature of stormwater discharges by allowing more time for the MS4 long-term, BMP, source control program approach to take place for controlling pollutants in stormwater discharges.

The compliance schedule in the proposed rule discourages a watershed approach to improving water quality. The development and implementation of a watershed plan requires many years and many stakeholder involvements. However, the short compliance schedule in the CTR would actually encourage the discharger to forgo the watershed approach and address its toxicity issues separately and more expeditiously.

Recommendation: The rule should allow the State to establish compliance schedules. Short of this flexibility, the rule should be revised to provide a longer compliance schedule and to provide more flexible regulatory relief for MS4 dischargers who have fully complied with the MEP discharge standards but cannot achieve WQBELs compliance within the established compliance schedule. At a minimum, the CTR should follow the recommendation of the State Task Force on the Inland Surface Water Plan to provide a 15-year compliance schedule. Also provisions should be made for a longer compliance schedule when dischargers use a watershed approach to control toxic pollutants.

Response to: CTR-027-008a

See response to CTR-030-004c.

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Comment ID: CTRH-001-034b  
Comment Author: Dave Brent  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: CA Water Qual. Task Force  
Document Date: 09/17/97  
Subject Matter Code: I-05 Compliance Schedules  
References:  
Attachments? N  
CROSS REFERENCES I-08  
G-03

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Comment: Thirdly, I'd like to touch upon implementation of the rule. My understanding is that the state's Inland Surface Waters and Enclosed Bays and Estuaries Plan will address implementation of the CTR. With this in mind, the CTR should serve as an enabling rule and allow the state and the dischargers flexibility in the implementation of objectives contained in the rule.

As I touched upon earlier in my opening remarks, EPA has included some enabling provisions in this rule that we support, such as use and determination of mixing zones and water effects ratios. From the

stormwater perspective, we believe other important enabling provisions must be included to allow for regional flexibility in the implementation of our stormwater programs.

For example, enabling provisions should be included to allow flexibility in establishing compliance schedules for stormwater discharges and should allow flexibility for site-specific establishment of low-flow conditions and wet weather standards, and ranges of human health criteria depending on the use of individual receiving waters.

Response to: CTRH-001-034b

With respect to compliance schedules see response to CTR-030-004c.

The final CTR also provides flexibility for site-specific flow conditions. EPA notes that the State of California may develop alternative design flows for its waters provided that those alternative flows are scientifically defensible and protective of the designated uses of State waters. Such alternative flows will be subject to EPA review and approval. However where the State has not adopted low flow provisions, the design flows specified in today's rule shall be implemented to ensure that the criteria will be implemented appropriately to provide environmental and human health protection.

As noted in the preamble of today's rule, EPA's Technical Support Document for Water Quality-based Toxics Control (the TSD) also recommends the use of dynamic models to perform wasteload allocations. EPA is clarifying that today's rule provides the State of California with the flexibility to utilize dynamic models in establishing low flow designs. The dynamic modeling techniques, as outlined in the TSD, will enable the determination of wasteload allocations that will meet the criteria in today's rule without using a single, worst-case concentration based on a critical condition.

EPA disagrees that it must or should establish ranges of criteria depending on the use of individual receiving waters. In establishing water quality criteria for California, EPA is implementing section 303(c)(2)(B) of the CWA which requires adoption of criteria for all priority toxic pollutants for which EPA has issued criteria guidance and for which the discharge of such pollutants could reasonably be expected to interfere with the designated uses adopted by the state. EPA based the criteria contained in the CTR on its recent national criteria guidance, which are designed to protect aquatic life and human health. As long as a waterbody currently has a designated use for the protection of aquatic life and/or human health, application of the section 304(a) criteria is appropriate for fulfilling section 303(c)(2)(B). As a policy matter, EPA believes that the CTR, a massive undertaking in and of itself, is an essential first step toward reinstating a strong water quality program in California. Under the CWA, EPA has no obligation to develop such site-specific criteria or the data upon which such site-specific criteria would be based. If, however, the State wishes to develop site-specific criteria or to change the uses of the waterbody, pursuant to the regulations at 40 CFR Part 131, EPA would consider and possibly approve such a site specific criterion.

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Comment ID: CTRH-002-026

Comment Author: Gary Hildebrand

Document Type: Public Hearing

State of Origin: CA

Represented Org: L.A. Dept of Public Works

Document Date: 09/19/97

Subject Matter Code: I-05 Compliance Schedules

References:

Attachments? N

#### CROSS REFERENCES

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Comment: The last thing, the proposed rule provides only a five-year compliance schedule for a discharger to achieve the proposed criteria. Municipal stormwater programs are long-term programs that could take many years to fully implement and to realize any water quality benefits. Limiting municipal stormwater discharges to a five-year compliance schedule is inappropriate and impracticable.

The preamble to the proposed rule addresses all wet weather discharges. This should be discussed and treated separately from all other weather and point sources charges. These are unique programs and cannot be placed in a one size-fits-all category. The proposed rule needs to account for the nature of stormwater discharges but needs to allow a longer compliance schedule to account for the long-term BMP source control program approach. The proposed rule and corresponding compliance schedule discourages a watershed approach to improving water quality. The development and implementation of a watershed plan requires many years and various involvement. However, the CTR with a short compliance schedule would actually encourage the watershed approach and address toxicity issues separately and a little more expeditiously. The CTR should follow the recommendations of the State Task Force on the Inland Surface Water Plan than propose a 15-year schedule for full compliance.

Again, we'll be following up with written comments covering our oral testimony today. Thank you.

Response to: CTRH-002-026

See response to CTR-030-004c.

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Subject Matter Code: I-07 Attainability of Criteria

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Comment ID: CTR-040-005

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-07 Attainability of Criteria

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: MAJOR CONCERNS

We do, however, have fundamental concerns with the Rule as it is presently proposed and its supporting economic analysis. We believe the Rule can be modified in a manner that will be responsive to our concerns while at the same time being consistent with applicable Federal law and regulations. Our major concerns are presented here and are followed by our recommended modifications.

1. Concern: The Rule, as presently proposed, appears to require discharges from municipal stormwater programs to meet water quality based effluent limits (WQBELs).

\* Attaining sufficient pollutant reduction through source control and other reasonable measures can be infeasible because many sources of pollutants are extremely difficult or impossible to control. This situation is illustrated by the Sacramento Stormwater Management Program's recent experience in evaluating sources of lead in Sacramento County. This past year the Sacramento Stormwater Program conducted an intense effort to evaluate lead, an identified high priority stormwater constituent of concern for the Program. A major part of the effort was to identify all potential sources of lead to stormwater. Approximately 50 individual sources of lead were identified. The next step was to determine which of these sources could be controlled considering the nature of the sources, practicality of controlling the sources, legal jurisdiction of the permittees, etc. Only a portion of the sources identified could be addressed through source control and BMPs. Some examples of sources that are difficult or impossible to control are: naturally occurring lead in soil, aircraft fuel (which does not come in unleaded form), automobile emissions (which still contain some lead), abrasion of road striping paint, and abrasion of tires.

Response to: CTR-040-005

See response to CTR-040-004.

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Comment ID: CTR-096-002

Comment Author: City of Modesto

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-07 Attainability of Criteria

References:

Attachments? N

**CROSS REFERENCES**

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Comment: Thank you for the opportunity to comment on the proposed California Toxics Rule. The City's comments are related to five main concepts:

2. Scientific data is lacking to show that impairments to waters of the United States are occurring during storm events.

Response to: CTR-096-002

Every two years, the California State Water Resources Control Board (SWRCB) submits a report on the State's water quality to the U.S. EPA pursuant to Section 305(b) of the Federal Clean Water Act. These reports present water quality assessment information compiled by California's nine Regional Water Quality Control Boards. SWRCB (1996) indicates that urban runoff and storm sewers are major and moderate sources of impairment of beneficial uses in estuaries, lakes and reservoirs, rivers and streams, and wetlands. The extent of this impairment is shown in the table below.

Sizes of Waters Impaired by Urban Runoff and Storm Sewers by Contribution to Impairment

Waterbody Type (Units)	Major <sup>1</sup>	Moderate and Minor <sup>2</sup>
Estuaries(Acres)	899	52,552
Lakes and Reservoirs (Acres)	120,320	7,985
Rivers and Streams (Miles)	92	1,620
Wetlands, Freshwater (Acres)	1	58,316
Wetlands, Tidal (Acres)	0	184

Source: SWRCB (1996).

1. A major contributor is a source that is either the only one responsible for nonsupport of any designated use or it predominates over other sources.

2. A moderate contributor is a source that is the only one responsible for partial support of any use, predominates over other sources of partial support, or is one of multiple sources of nonsupport that have a significant impact on designated use attainment. A minor contributor is a source that is one of multiple sources responsible for nonsupport or partial support and is judged to contribute relatively little to this nonattainment.

State Water Resources Control Board (SWRCB). 1996. California 305(b) Report on Water Quality. Prepared as Required in Clean Water Act Section 305(b). August.

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Subject Matter Code: I-08 SWRCB Flexibility&Authority

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Comment ID: CTR-001-010  
Comment Author: Law Offices of Alan C. Waltner  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org: Alameda Cnty Clean Wtr Pgm  
Document Date: 09/22/97  
Subject Matter Code: I-08 SWRCB Flexibility&Authority  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: EPA SHOULD ADDRESS ALL OF THE FACTORS THAT THE STATE WOULD ADDRESS UNDER THE PORTER COLOGNE ACT IN ESTABLISHING AN IMPLEMENTATION POLICY FOR MS4S

In promulgating water quality standards, EPA "is subject to the same policies, procedures, analyses, and public participation requirements established for States . . ." 40 C.F.R. Section 131.22(c). If EPA is to stand in the shoes of the State Board in this activity, it needs to address the fundamental statutory criteria for basin plan amendments, which limits the Regional Board to adopting only those objectives that "will ensure the reasonable protection of beneficial uses and the prevention of nuisance . . . [taking into account] . . . economic considerations . . . [and] the need for developing housing within the region." Water Code Section 13241.

Under state law, the definition of water quality objectives incorporates this requirement of reasonableness, by defining objectives to mean "the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area." Water Code Section 13050(h).

All basin plans must implement the basic policies of Water Code Section 13000, which states that "activities and factors which may affect the quality of the waters of the state shall be regulated to attain the highest water quality which is reasonable, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible."

At the permitting stage, water code Section 13263(a) provides for the case-by-case consideration of site specific beneficial uses and objectives in every instance: "(discharge requirements] shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose . . . and the provisions of Section 13241."

Even if EPA considers itself exempt from the application of these provisions of the Porter Cologne Act when it adopts water quality standards for California, by including inflexible standards that do not allow for the future consideration of costs as required by Section 13241, EPA is putting the Regional and State Boards on a collision course with these requirements when future Basin Plan and permitting decisions are made. Adequate flexibility must be included in the regulation, at minimum by preserving existing basin plan and State Board implementation policies, so that these state law requirements can be satisfied when basin planning and permitting decisions are made in the future.

Response to: CTR-001-010

EPA disagrees with this comment. EPA must adopt criteria in accordance with the requirements of the CWA. The quoted regulation means that EPA will follow the same policies, procedures, analyses, and public participation requirements as it requires for states under the CWA. The regulation does not mean that the CWA's provisions are negated by state law. As EPA explained in the CTR response to CTR-042-007a, while economic factors may be considered in designating uses, they may not be used to justify criteria that are not protective of those uses. As a Federal agency, EPA is not subject to the requirements of the Porter-Cologne Act.

The CTR does not interfere with the State's discretion to develop implementation policies including basin planning activities and permitting decisions. Federal law does allow the State to consider economics in decisions regarding changes in designated uses and variances.

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Comment ID: CTRH-001-034a  
Comment Author: Dave Brent  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: CA Water Qual. Task Force  
Document Date: 09/17/97  
Subject Matter Code: I-08 SWRCB Flexibility&Authority  
References:  
Attachments? N  
CROSS REFERENCES I-05; G-03

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Comment: Thirdly, I'd like to touch upon implementation of the rule. My understanding is that the state's Inland Surface Waters and Enclosed Bays and Estuaries Plan will address implementation of the CTR. With this in mind, the CTR should serve as an enabling rule and allow the state and the dischargers flexibility in the implementation of objectives contained in the rule.

As I touched upon earlier in my opening remarks, EPA has included some enabling provisions in this rule that we support, such as use and determination of mixing zones and water effects ratios. From the stormwater perspective, we believe other important enabling provisions must be included to allow for regional flexibility in the implementation of our stormwater programs.

For example, enabling provisions should be included to allow flexibility in establishing compliance schedules for stormwater discharges and should allow flexibility for site-specific establishment of low-flow conditions and wet weather standards, and ranges of human health criteria depending on the use of individual receiving waters.

Response to: CTRH-001-034a

See response to CTRH-001-034b.

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Subject Matter Code: I-09 Pesticides in Runoff

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Comment ID: CTR-061-001

Comment Author: G. Fred Lee & Associates

Document Type: Academia

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-09 Pesticides in Runoff

References:

Attachments? Y

CROSS REFERENCES

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Comment: Please find enclosed an original and two copies, and a computer disk, of my comments on the draft "US EPA 40 CFR Part 131 Water Quality Standards for the State of California" as proposed on Tuesday, August 5, 1997. As indicated, I find significant problems with the proposed approach set forth in the draft CTR for regulating some "toxics" in California waters. I also find problems with some of the criteria in that they do not represent the information on the constituents' potential impacts on the beneficial uses of waterbodies. If adopted as proposed, the CTR will lead to massive waste of public and private funds in the construction of unnecessary treatment works for domestic and industrial wastewaters and especially urban and highway stormwater runoff, in an effort to try to meet water quality standards based on the CTR proposed criteria in discharges and ambient waters without a significant improvement of real water quality/beneficial uses of waterbodies of concern to the public who must pay for the over-regulation. The proposed CTR fails to address the most important cause of real ambient-water toxicity in California, organophosphate pesticides in urban and agricultural stormwater runoff. The Agency needs to shift its toxics control program from control of chemical constituents that in some situations can be toxic, to the control of ambient water toxicity in ambient waters.

Response to: CTR-061-001

EPA disagrees. The CTR establishes the pollutant levels in ambient waters necessary to protect beneficial designated uses. Establishing numeric criteria for ambient water bodies does not limit the discretion of the permit writer to use appropriate and flexible tools such as mixing zones or translators for dissolved metals in establishing effluent limits. In addition, if a discharger believes the CTR criterion is inappropriately restrictive or overprotective of the designated use, the discharger can request the State and EPA to approve a site-specific criterion or to downgrade the designated use.

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Subject Matter Code: I-10 CSO Policy

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Comment ID: CTR-090-021

Comment Author: C&C of SF, Public Util. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: I-10 CSO Policy

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

**CROSS REFERENCES**

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Comment: Wet weather flows - p 42186 - This section needs to be rewritten to incorporate the policy for combined sewer systems as described in EPA's Combined Sewer Overflow Control Policy. The policy includes two specific approaches for assessing compliance with water quality standards and these are not addressed in this rule-making.

Response to: CTR-090-021

See response to CTR-040-004.

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Subject Matter Code: J Storm Water Economics

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Comment ID: CTR-001-007

Comment Author: Law Offices of Alan C. Waltner

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org: Alameda Cnty Clean Wtr Pgm

Document Date: 09/22/97

Subject Matter Code: J Storm Water Economics

References:

Attachments? N

CROSS REFERENCES

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Comment: SIGNIFICANT ECONOMIC IMPACTS WOULD RESULT FROM THE APPLICATION OF WATER QUALITY STANDARDS AS NUMERIC EFFLUENT LIMITATIONS OR WASTELOAD ALLOCATIONS

If EPA intends that the WQS have a more direct effect on the permitting for MS4s, the implications are significant. In particular, the economic analysis supporting the proposed CTR would be dramatically incomplete. Massive expenditures would be required if storm water systems essentially were required to meet the same numerically based treatment standards as being considered for POTWs. The expenditures that would result from such an approach are being addressed in more detail in other MS4 comments, and will not be repeated here.

However, we note that the economic impact analysis that EPA prepared to support the proposed rule assumes that the regulation would have no economic impact on MS4s. (\*11) If MS4s are subjected to NELs or WLAs as a result of the rule, significant economic impacts would result. Even if water quality based effluent limitations are based on BMPS, they would have an economic impact if they represent controls more extensive than the maximum extent practicable criteria of Section 402(p). EPA's economic analysis also provides no basis for estimating the costs to MS4s, since the "representative" dischargers analyzed in the economic analysis do not include any storm water systems. The economic analysis does not include these costs and it would be arbitrary to adopt a rule that would have these implications without considering those costs. (\*12)

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(\*11) Likewise, the economic analysis supporting the State Implementation Policy excluded consideration of the costs to municipal storm water systems, on the theory that "the proposed Policy does not impose new regulatory requirements and, therefore, no additional costs are anticipated (i.e., . . . storm water . . . )" SIP at VIII-33. Elsewhere the SIP urges that: "The SWRCB is making no changes in the existing storm water program at the SWRCB and RWQCB. For these reasons, this cost analysis did not consider the storm water proposed Policy issue." Id. at VIII-43. These municipal costs were excluded even though the benefits calculations assumed that the proposed water quality standards would be achieved and that, with respect to San Francisco Bay, the share of toxic loadings attributable to nonpoint sources is estimated to range from 90% to 99% of the total. SIP at VIII-25. It is fundamental that "you can't get something for nothing" and the conflicting assumptions in the SIP, which parallel assumptions in the economic analysis of the CTR, are simply arbitrary.

(\*12) Also, since EPA stands in the shoes of the state in adopting these criteria the action would violate the cost balancing elements of the Porter Cologne Act, as discussed below. At minimum, to the extent

that the rule creates an inflexible obligation to implement the criteria with respect to MS4s without complying with Porter Cologne Act requirements, it would set the State and Regional Boards on a collision course with those requirements at the Basin Plan and NPDES permitting phases.

Response to: CTR-001-007

EPA did not ascribe benefits or costs of controlling storm water discharges in the proposed or final Economic Analysis. EPA believes that many storm water dischargers can avoid violation of water quality standards through application of best management practices that are already required by current storm water permits. This conclusion is supported by EPA's analysis of the data submitted by several commenters (see response to CTR-040-004). EPA articulated its position on the use of BMPs in storm water permits in the Interim Permitting Approach for Water Quality Based Effluent Limitations in Storm Water Permits (61 FR 43761, August 19, 1996).

The commenter claims that even with the application of current BMPs, its storm water dischargers would still violate water quality standards due to the CTR criteria. The commenter appears to assume that the storm water discharge would be subject to numeric water quality based effluent limits which would be equivalent to the criteria values and applied as effluent limits never to be exceeded, or calculated in the same manner that effluent limits are calculated for other point sources, such as POTWs. The commenter then appears to assume that such WQBELs would then require the construction of very costly end-of-pipe controls.

EPA contends that neither scenario is valid with regards to developing WQBELs for storm water discharges or establishing compliance with WQBELs. EPA acknowledges that wet weather discharges are technically difficult to model and evaluate financially, because they are intermittent and highly variable. Wet weather discharges also occur under more diverse hydrologic or climatic conditions than continuous discharges from industrial or municipal facilities, which are evaluated under critical low flow or drought conditions. If the EPA had enough data to completely characterize all the conditions and do the necessary modelling, WQBELs would be developed using dynamic models to account for the intermittent loadings and exposures from the storm water discharges. In the absence of this data, EPA will continue to advocate the use of BMPs, as discussed in the CTR preamble. Therefore, EPA believes there is inadequate information at the current time to conclude whether the CTR will have any cost impact on storm water dischargers. Until that information is available, it is premature to project that storm water dischargers would be subject to strict numeric WQBELs and would incur any costs beyond those for which they are already legally responsible under the Clean Water Act. EPA will continue to work with the State to implement storm water permits that comply with water quality standards with an emphasis on pollution prevention and best management practices rather than costly end-of-pipe controls.

See also response to CTR-040-004.

EPA disagrees that the CTR must meet the requirements of the Porter Cologne Act. As a Federal agency, EPA is not subject to the requirements of the Porter-Cologne Act, which is State law. See also response to CTR-020-002 (Category C-21; Legal Issues).

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Comment ID: CTR-013-003

Comment Author: County of Los Angeles

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-013 incorporates by reference letter CTR-027

Attachments? N

## CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following concerns which greatly impact the Los Angeles County Stormwater Program:

3. The economic analysis used by The USEPA is flawed and inadequately addresses the impacts of the CTR on the stormwater-regulated community. Again, setting aside the issue of WQBELS for MS4s, the economic analysis is inadequate. Under Executive Order 12866, the USEPA must determine whether the CTR is "significant" and subject to OMB review. One of the criteria in assessing whether a proposed regulation is significant is to determine if it has an adverse affect resulting in an annual cost of \$100 million or more. To address this criterion, the USEPA estimated the cost and benefit of the proposed regulations. Based on this analysis, the USEPA determined that the CTR was not a "significant regulatory action."

In its economic analysis, the USEPA's entire focus of the compliance cost was on the point sources which included Public-Owned Treatment Works (POTWs), industrial treatment facilities, and industrial users discharging to POTWS. A major omission in the USEPA analysis is the cost for the stormwater program to comply with the proposed criteria.

In its analysis, the USEPA appears to assume that a BMP program will lead to compliance and that there is no associated cost for a BMP Program (over and above what an MS4 has in place already). This assumption appears to be applied to both municipal and industrial stormwater interests. We point to studies conducted by the County of Sacramento and Fresno Metropolitan Flood Control district which show this to be incorrect, i.e., a BMP program cannot comply with the proposed criteria. Furthermore, these studies show that the cost for a BMP program is significant and would increase substantially if an MS4 was required to construct end-of-pipe treatment for compliance.

It may be argued that an MS4 would seek regulatory relief from the criteria before incurring the cost of end-of-pipe treatment. While this is probably a reasonable assumption, the economic analysis failed to address the cost for either treatment, BMP program, or regulatory relief for MS4s. As a result, the overall cost for compliance is significantly underestimated. By assigning zero cost to the MS4s for compliance, the cost benefit analysis is severely flawed.

We recommend that the USEPA not implement the proposed criteria to MS4 discharges without an adequate economic analysis addressing the true impacts to MS4 dischargers is conducted and assessed.

Response to: CTR-013-003

EPA disagrees with the comment that its economic analysis is flawed or incomplete.

EPA did not include benefits or costs of controlling storm water discharges in the proposed or final Economic Analysis. EPA believes that many storm water dischargers can avoid violation of water quality standards through application of best management practices that are already required by current

storm water permits. This conclusion is supported by EPA's analysis of the data submitted by several commenters (see response to CTR-040-004). EPA articulated its position on the use of BMPs in storm water permits in the Interim Permitting Approach for Water Quality Based Effluent Limitations in Storm Water Permits (61 FR 43761, August 19, 1996).

The commenter claims that even with the application of current BMPs, its storm water dischargers would still violate water quality standards due to the CTR criteria. The commenter appears to assume that the storm water discharge would be subject to numeric water quality based effluent limits which would be equivalent to the criteria values and applied as effluent limits never to be exceeded, or calculated in the same manner that effluent limits are calculated for other point sources, such as POTWs. The commenter then appears to assume that such WQBELs would then require the construction of very costly end-of-pipe controls.

EPA contends that neither scenario is valid with regards to developing WQBELs for storm water discharges or establishing compliance with WQBELs. EPA acknowledges that wet weather discharges are technically difficult to model and evaluate financially, because they are intermittent and highly variable. Wet weather discharges also occur under more diverse hydrologic or climatic conditions than continuous discharges from industrial or municipal facilities, which are evaluated under critical low flow or drought conditions. If the EPA had enough data to completely characterize all the conditions and do the necessary modelling, WQBELs would be developed using dynamic models to account for the intermittent loadings and exposures from the storm water discharges. In the absence of this data, EPA will continue to advocate the use of BMPs, as discussed in the CTR preamble. Therefore, EPA believes there is inadequate information at the current time to conclude whether the CTR will have any cost impact on storm water dischargers. Until that information is available, it is premature to project that storm water dischargers would be subject to strict numeric WQBELs and would incur any costs beyond those for which they are already legally responsible under the Clean Water Act. EPA will continue to work with the State to implement storm water permits that comply with water quality standards with an emphasis on pollution prevention and best management practices rather than costly end-of-pipe controls.

With respect to the studies conducted by the County of Sacramento and Fresno Metropolitan Flood district see response to CTR-040-004.

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Comment ID: CTR-013-008b  
Comment Author: County of Los Angeles  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: J Storm Water Economics  
References: Letter CTR-013 incorporates by reference letter CTR-027

Attachments? N  
CROSS REFERENCES R

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Comment: In addition, we would like to emphasize the following concerns which greatly impact the Los Angeles County Stormwater Program:

8. The proposed rule applies to all current and future MS4 dischargers, including small communities.

The small communities will be significantly impacted by the proposed rule. In Los Angeles County, 77 of the 85 co-permittee cities are communities with a population of less than 100,000. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies, however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities, however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule(\*2), it indicates that there are no small entities to be impacted by the rule and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis on the economic impacts to smaller communities.

Therefore, unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

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(\*2) Federal Register, August 5, 1997, Vol. 62, No. 150, Page 42191

Response to: CTR-013-008b

See response to CTR-001-008b and the preamble to the final rule.

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Comment ID: CTR-014-003  
Comment Author: City of Lakewood  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: J Storm Water Economics  
References: Letter CTR-014 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

#### **CROSS REFERENCES**

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Comment: 3. The economic analysis used by the USEPA is flawed and inadequately addresses the impacts of the CTR on the stormwater-regulated community. The USEPA's economic analysis focused entirely on the compliance cost of point sources, which included Public Owned Treatment Works (POTWs), industrial treatment facilities, and industrial users discharging to POTWs. A major omission in the USEPA analysis is the cost for the stormwater program to comply with the proposed criteria.

In its analysis, the USEPA appears to assume that a BMP program will lead to compliance and that there is no associated cost for a BMP Program (over and above what an MS4 has in place already). Studies conducted by the County of Sacramento and Fresno Metropolitan Flood Control district shows this to be incorrect, i.e., a BMP program cannot comply with the proposed criteria. Furthermore, these studies show that the cost for a BMP program is significant and would increase substantially if an MS4 was required to construct end-of-pipe treatment for compliance. The USEPA should not implement the proposed criteria to MS4 discharges until such time as an adequate economic analysis addressing the true impacts to MS4 dischargers is conducted and assessed.

Response to: CTR-014-003

See response to CTR-013-003.

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Comment ID: CTR-014-004b

Comment Author: City of Lakewood

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-014 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES R

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Comment: 4. The proposed rule applies to all current and future MS4 dischargers, including small communities. These small communities will be significantly impacted by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule(\*1) it indicates that there are no small entities to be impacted by the rule, and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase 11. The USEPA should have conducted an analysis on the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

Thank you for this opportunity to comment on the proposed CTR. Respectfully,

Lisa Ann Rapp Director of Public Works

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(\*1) Federal Register, August 5, 1997, Vol. 62, No. 150, Page 42191

Response to: CTR-014-004b

See response to CTR-013-008b.

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Comment ID: CTR-018-001

Comment Author: Ventura Countywide SWQMP

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: J Storm Water Economics

References:

Attachments? N

CROSS REFERENCES

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Comment: I would like to take this opportunity to submit in writing the specific concerns of the municipal stormwater program in Ventura County that I expressed on September 18, 1997 at the Public Hearings on the subject proposed rule.

In August of 1994, a countywide municipal NPDES permit was issued to the Ventura County Flood Control District, the County of Ventura and the ten cities in Ventura County. We are now entering the fourth year of our permit term.

At the time the eleven municipalities in Ventura County applied for the stormwater permit, only three were actually required to do so. The other eight entered the program voluntarily. In reality, five of these co-permittees would not even be required to be covered under Phase II, since their populations range from 8 to 30,000.

The Ventura Countywide Stormwater Quality Management Program was formulated to achieve compliance with the maximum extent practicable discharge standard through the use of Best Management Practices (BMPs). While the primary goal and driving force of the program is to achieve compliance with water quality standards, the economic and technological feasibility of achieving all of the proposed criteria is not practical given the diverse nature of an urbanized area, the number of discharge points and the numerous sources of pollutants for urban runoff.

Under our monitoring program, we have collected urban runoff water quality data for the past four years. The attainability analysis-using this data has indicated that even if a BMP program was fully implemented at exorbitant expense, we may not be able to achieve compliance with proposed criteria for copper, lead, zinc, thallium, nickel, and silver.

The alternative to BMP implementation would be to collect and treat stormwater discharges. Stormwater regulations make it clear that municipal stormwater permits are to implement programs to address the sources of pollutants, not to provide end of pipe treatment.

Although the cost of compliance with this rule will significantly impact all communities, the cost could be even more significant and prohibitive for the smaller ones that have made a proactive choice to apply for permit coverage. Currently, in Ventura County, we are spending approximately \$5.00 per capita to implement a BMP based program. Yet the economic analysis concludes that the maximum cost of implementing the California Toxics Rule in California, for all dischargers, will be approximately \$2.50 to \$3.00 per person. We believe that the economic analysis for the proposed rule has not accurately evaluated the financial impact to municipalities, particularly the smaller ones.

Thank you for the opportunity to provide comments to the proposed rule. If you have any questions or would like to discuss these comments further, feel free to call me at (805)654-2040,

Response to: CTR-018-001

See responses to CTR-013-003 and CTR-040-004.

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Comment ID: CTR-019-001b

Comment Author: Richards, Watson & Gershon

Document Type: Local Government

State of Origin: CA

Represented Org: Cities of Barst

Document Date: 09/26/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-019 incorporates by reference letters CTR-001, CTR-013, CTR-027 and CTR-036

Attachments? N

CROSS REFERENCES I-01

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Comment: We recognize that the basic purpose for the proposed rule is to establish water quality criteria for priority toxic pollutants for point source discharges. However, in proposing to extend that criteria to storm water discharges, it is clear that EPA has not fully assessed the potential impact of such an extension on local governmental agencies, nor the complete lack of feasibility of attempting to apply numeric effluent standards to discharges to municipal separate storm sewer systems ("MS4s"), or the enormous cost of such an effort which would potentially require a complete reengineering and if not reconstruction of MS4s in California to include end-of-pipe treatment.

Our comments should be considered in the proper context. The cities which we represent are acutely aware of the problems associated with pollution from... urban runoff. Their residents and businesses share a common concern to preserve and enhance the water quality of our bays, rivers, estuaries and the Pacific Ocean. Our cities are fully committed to doing what they reasonably can to achieve these objectives. Our cities have been working with staff of the State Water Resources Control Board ("SWRCB") and its Regional Water Quality Control Boards ("RWQCB's") to develop effective storm water management programs under current municipal NPDES permits which comply with state and federal law. However, the proposed rule does not appear to reflect or recognize that individual cities'

fiscal and administrative resources for implementing unfunded mandates are limited. Of all governmental agencies in California involved in the process, the many small cities which we represent are the least suited to bear the brunt of the responsibility for controlling pollution from urban runoff.

The primary portion of the proposed rule that has caused concern among our cities is the statement at pages 42186-42187 of preamble that:

"When this rulemaking is complete, these criteria will be used to determine water-quality standards in California and will therefore be the basis of WQBELs in NPDES permits for wet weather point sources. However, EPA recognizes that it is commonly infeasible to express WQBELs as numeric limits for wet weather discharges and that in such cases best management practices ("BMPs") may serve as WQBELS. (Emphasis added.)

Our concern is further heightened by the comment at page 42187 of preamble that:

"It is therefore anticipated that WQBELS, including those necessary to meet the criteria set forth in this proposed rule, will be expressed as BMPs in wet weather dischargers' NPDES permits, when the permitting authority determines that it is infeasible to express WQBELS as numeric limits." (Emphasis added.)

The comments appear to indicate that in any further municipal NPDES permitting situations, the proposed rule potentially can be interpreted to require the implementation of WQBELs unless an analysis is prepared determining the infeasibility of each of the WQBELs as numeric limits.

As applied to storm water discharges, WQBELs are almost by definition infeasible. It should also be kept in mind that it is not the cities themselves that are the sources of stormwater pollution; municipal facilities have not been identified, to our knowledge, as being significant sources of contaminated urban runoff. Rather, the sources of this type of pollution, to the extent they can be identified, appear to be primarily the result of hydrological changes brought about by urbanization. These are activities over which cities have very little practical control. Nevertheless, the cities and counties of California are bearing the full and financially unassisted responsibility of ending stormwater pollution themselves.

We agree with the comments of the County of Los Angeles and the ACCWP that EPA's effort to apply numeric effluent limits to municipal storm water discharges is in direct conflict with the plain language of Congress in adopting the "maximum extent practicable" standard for controlling pollution in storm water discharges to a MS4. The proposed rule as applied to wet weather flows is also clearly inconsistent with both the EPA Is and the SWRCB's approach of addressing this problems through the adoption of Best Management Practices ("BMP's").

As noted in the SWRCB's own Municipal Storm Water Best Management and Practices Guidebook, "the sources of storm water pollution are extensive, ill-defined and highly variable." The State Board previously determined in its order entitled "In the Matter of Petition of Natural Resources Defense Council, Inc. for Review of Waste Discharge Requirements Order No. 90-079," Order No. WQ 91-04 (May 16, 1991), that:

"We find here also that the approach of the Regional Board requiring the dischargers to implement a program of best management practices which will reduce pollutants and runoff and prohibiting non-storm water discharges, is appropriate and proper. We base our conclusion on the difficulty of establishing numeric effluent limitations which have a rational basis, the lack of technology available to treat storm water discharges at the end of the pipe, the huge expense such treatment would entail, and the level of

pollutant reduction which we anticipate from the Board's regulatory program. We feel compelled to note here our agreement with the Regional Board that this permit does truly represent a massive undertaking." (Emphasis added.)

As discussed in detail in the technical comments filed in response to the proposed rule, the EPA has not explained how the proposed numeric effluent guidelines can be achieved through the implementation of BMP's. Under the circumstances, the ultimate result of the application of the rule to storm water discharges would be end of pipe treatment controls.

However, the EPA has already recognized, as the SWRCB, that end of pipe treatment controls for storm water discharges are technically unfeasible and unreasonable. The EPA has recognized that "it was not the intent of Congress to acquire municipal permits to required end of pipe treatment technology but to implement a comprehensive stormwater management program to reduce the discharge of pollutants from municipal storm sewer systems." 55 Fed.Reg., p. 48038 (November 16, 1990).

Each of our cities strongly believe that the proposed rule must be modified to clearly state that numeric effluent guidelines do not and will not apply to discharges to the municipal separate sewer systems.

Response to: CTR-019-001b

See response to CTR-040-004.

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Comment ID: CTR-019-002a

Comment Author: Richards, Watson & Gershon

Document Type: Local Government

State of Origin: CA

Represented Org: Cities of Barst

Document Date: 09/26/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-019 incorporates by reference letters CTR-001, CTR-013, CTR-027 and CTR-036

Attachments? N

CROSS REFERENCES S

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Comment: UNFUNDED MANDATED PROGRAMS

One of the express purposes of the Unfunded Mandates Reform Act of 1995 is "to end the imposition, in the absence of full consideration of Congress of Federal mandates on State, local and tribal governments without adequate Federal funding, in a manner that may displace other essential State, local and tribal governmental priorities." 2 U.S.C. section 1501(2). The proposed rule in its current form seems to have been drafted without regard to its fiscal impact on cities. The rule could require treatment of storm water discharges, despite the fact that no funding mechanism, nor any assistance, financial or otherwise, is being provided to the cities by either USEPA or the State of California. If the USEPA wishes to impose these treatment programs, it needs to provide funds to pay for their implementation.

We believe that USEPA's analysis under the Unfunded Mandates Reform Act of 1995 that the CTR will not result in an expenditure in the aggregate of more than \$100,000,000.00 a year is wrong. As pointed

by other local government entities which have submitted comments, the USEPA appears to assume that a BMP program will lead to compliance with numeric effluent guidelines and that there will be no associated additional costs for the BMP program. However, the economic analysis does not appear to analyze the potential cost of end of pipe treatment controls and analyze in any sort of detail what sort of BMP's would be necessary to achieve numeric effluent guidelines for the toxic pollutants. The economic analysis itself acknowledges that under its existing NPDES stormwater permit, the cities and counties of the Los Angeles area plan to spend \$15,000,000 annually on public education in a program to curb illegal dumping. That cost estimate was based upon the analysis by the SWRCB of the 1990 permit. The actual costs of implementing all of the programs under the 1990 permit have been considerably more. For example, the cost estimates prepared by the San Gabriel Valley COG in connection with the LA. County permit, estimated implementation costs at \$8.98 per person per year. The City of Long Beach estimated that it was already spending, as of early 1996, \$12.4 million a year and that the estimated costs of implementing the programs under the current permit adopted in July 1996 would be another \$3.4 million or about \$16.1 million total. That number extrapolated to approximately \$38.35 per person per year. The comparative cost numbers prepared by the Santa Monica Bay Restoration Project in connection with the existing Los Angeles permit estimated an average cost of dedicated stormwater program funding of \$3.34 a month per household or approximately \$13.36 per person per year. Using that number as a base, a city with a population of approximately 40,000 people can expect to spend \$500,000 a year under its current stormwater programs. Extrapolating those numbers over the State of California, it is quite clear that the costs of implementing the existing stormwater program are in the hundred of millions of dollars a year.

Considering these economic analyses, it is quite clear that the financial impact of requiring end of pipe treatment controls or other means to achieve numeric effluent guidelines would quite easily exceed \$100 million a year.

The foregoing numbers, of course, do not include potential increased costs to residents, business and industry complying with the discharge prohibitions and other requirements under the City's current municipal permits nor does the EPA's economic analysis calculate the potential costs to regulated dischargers, that is, business and industries required to either obtain an individual NPDES stormwater permit or who are covered under a general permit by filing a notice of intent.

Necessarily, the expenditure of such large amounts of money is an important public policy question, particularly in a situation where neither the State of California nor the federal government has been willing to provide any meaningful source of funds to local agencies to carry out these programs.

Response to: CTR-019-002a

See response to CTR-013-003.

With respect to EPA's compliance with UMRA see the preamble to the final rule.

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Comment ID: CTR-019-003a  
Comment Author: Richards, Watson & Gershon  
Document Type: Local Government  
State of Origin: CA  
Represented Org: Cities of Barst  
Document Date: 09/26/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-019 incorporates by reference letters CTR-001, CTR-013, CTR-027 and CTR-036

Attachments? N

CROSS REFERENCES R

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Comment: THE PROPOSED RULE DOES NOT COMPLY WITH THE REGULATORY FLEXIBILITY ACT

USEPA's analysis under the Regulatory Flexibility Act and Executive Order No. 12866 that the CTR will not affect a significant number of small entities is simply wrong. Most of the cities which we represent have populations of less than 20,000; many have less than 10,000. As noted by the County of Los Angeles, 77 of the co-permittee cities have populations of less than 100,000. Many of these cities are primarily residential and with limited tax revenues. Nevertheless the proposed CTR would impose the same financial requirements on these cities as would be imposed on larger entities. These cities do not receive funds from either the State of California or the federal government for their storm water programs or other urban runoff control measures.

Response to: CTR-019-003a

EPA believes it properly described the potential impact of the implementation of the CTR on storm water discharges in the preamble to the proposed CTR and in its Economic Analysis (for further discussion see responses to CTR-013-003 and CTR-040-004). EPA believes it is in full compliance with its legal obligations under Executive Order 12866 (see response to CTRH-002-006a; Category I: Stormwater/Wet Weather Flows), the Regulatory Flexibility Act (see response to CTR-013-008b).

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Comment ID: CTR-021-006a

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyva

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES E-01c

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I-01

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Comment: It is with a sense of reluctance that Sunnyvale joins in CASA/Tri-TAC's adverse comments on the CTR and the EA, and Sunnyvale does so in a spirit of constructive criticism and with an expectation that the Agency will make the necessary adjustments in its approach towards the CTR before the final rule is promulgated. In addition, in the same spirit and with the same expectation, Sunnyvale would like to make the following points on its own behalf:

3. Failure to Address Important Stormwater-Related Issues. In addition to its POTW, Sunnyvale is the

owner of a system of storm drains which contribute wet weather flows to the South Bay. We are concerned that the EA entirely neglects the potential impacts of the proposed CTR on the storm drains. The EA entirely omits any meaningful analysis of the costs of bringing storm drains into compliance with the proposed CTR, thereby significantly understating the overall costs of the CTR. We believe that this omission is violative of the Agency's legal obligations under the authorities cited in the preceding paragraph.

In addition, we join in the comments being filed by the various other operators of stormwater collection systems to the effect that EPA has overstated the legal requirements for storm drains to comply with numerical criteria.

Response to: CTR-021-006a

EPA believes it properly described the potential impact of the implementation of the CTR on storm water dischargers in the preamble to the proposed CTR and in its Economic Analysis (for further discussion see responses to CTR-013-003 and CTR-040-004). EPA believes it is in full compliance with its legal obligations under Executive Order 12866 (see response to CTRH-002-006a; Category I: Stormwater/Wet Weather Flows), the Regulatory Flexibility Act (see response to CTR-013-008b), and the Unfunded Mandates Act (see preamble to the final rule).

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Comment ID: CTR-024-003

Comment Author: City of Hawthorne

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-024 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES

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Comment: 3. The economic analysis used by The USEPA is flawed and inadequately addresses the impacts of the CTR on the stormwater-regulated community. The USEPA's economic analysis focused entirely on the compliance cost of point sources, which included Public Owned Treatment Works (POTWs), industrial treatment facilities, and industrial users discharging to POTWs. A major omission in the USEPA analysis is the cost for the stormwater program to comply with the proposed criteria.

In its analysis, the USEPA appears to assume that a BMP program will lead to compliance and that there is no associated cost for a BMP Program (over and above what an MS4 has in place already). Studies conducted by the County of Sacramento and Fresno Metropolitan Flood Control district shows this to be incorrect, i.e., a BMP program cannot comply with the proposed criteria. Furthermore, these studies show that the cost of a BMP program is significant and would increase substantially if an MS4 was required to construct end-of-pipe treatment for compliance. The USEPA should not implement the proposed criteria to MS4 discharges until such time as an adequate economic analysis addressing the true impacts to MS4 dischargers is conducted and assessed.

Response to: CTR-024-003

See response to CTR-013-003.

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Comment ID: CTR-024-004b

Comment Author: City of Hawthorne

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-024 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES R

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Comment: 4. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly impacted by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule(\*1), it indicates that there are no small entities to be impacted by the rule, and therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis on the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

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(\*1) Federal Register, August 5, 1997, Vol. 62, No. 150, page 42191

Response to: CTR-024-004b

See response to CTR-013-008b.

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Comment ID: CTR-027-003

Comment Author: California SWQTF

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040

Attachments? N

CROSS REFERENCES

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Comment: 3. The economic analysis used by USEPA is flawed and inadequately addresses the impacts of the CTR on the stormwater-regulated community. Again setting aside the issue of WQBELs for MS4s, the economic analysis is inadequate. Under Executive Order 12866 USEPA must determine whether the CTR is "significant" and subject to OMB review. One of the criteria in assessing whether a proposed regulation is significant is to determine if it has an adverse effect resulting in an annual cost of \$100 million or more. To address this criterion USEPA estimated the cost and benefit of the proposed regulations. Based on this analysis USEPA determined that the CTR was not a "significant regulatory action".

USEPA used two different economic models in assessing the CTR. The model that proved more applicable consisted of an analysis that focused on direct compliance costs (such as capital costs and O&M for end-of-pipe control, indirect source control, (e.g. pretreatment programs) pollution prevention, monitoring and costs for pursuing alternative methods of compliance). However, the entire focus of the compliance cost was on the point sources with individual NPDES permits, which included Public Owned Treatment Works (POTWs), industrial treatment facilities, and industrial users discharging to POTWS. A major omission in USEPA's analysis is the cost for the stormwater program to comply with the proposed criteria.

In its analysis USEPA appears to assume that a BMP program will lead to compliance and that there is no associated cost for a BMP program (over and above what an MS4 has in place already). This assumption appears to be applied to both municipal and industrial stormwater interests. We point to studies conducted by the County of Sacramento and Fresno Metropolitan Flood Control District which show this to be incorrect, i.e. an aggressive BMP program cannot comply with the proposed criteria. Furthermore, these studies show that the cost for an aggressive BMP program is significant and would increase much more substantially if an MS4 was required to construct end-of-pipe treatment for compliance.

It may be argued that an MS4 would seek regulatory relief from the criteria before incurring the cost of end-of-pipe treatment. Even assuming such relief would be forthcoming, the economic analysis failed to address the cost for treatment, or for a BMP program, or for seeking regulatory relief for MS4s. As a result the overall cost for compliance is significantly underestimated. By assigning zero cost to the MS4s for compliance, the cost benefit analysis is severely flawed.

Recommendation: USEPA should not implement the proposed criteria until such time an adequate economic analysis addressing the true impacts to MS4 dischargers is conducted and assessed.

Response to: CTR-027-003

See response to CTR-013-003.

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Comment ID: CTR-027-009b

Comment Author: California SWQTF  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: J Storm Water Economics  
References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040  
Attachments? N  
**CROSS REFERENCES R**

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Comment: 9. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly impacted by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems if the proposed criteria are adopted. While most small communities have not conducted discharge characterization studies; it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless EPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule (\*3), USEPA indicates that no small entities are impacted by the rule, and, therefore, USEPA did not need to complete an analysis required under the Act. USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase II. USEPA should have conducted an analysis on the economic impacts to smaller communities.

Recommendation: Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be promulgated until USEPA has complied with the requirements of the Regulatory Flexibility Act.

(\*3) Federal Register, August 5, 1997, Vol. 62, No. 150, page 42191

Response to: CTR-027-009b

See response to CTR-013-008b.

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Comment ID: CTR-027-010  
Comment Author: California SWQTF  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: J Storm Water Economics  
References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040  
Attachments? N

## CROSS REFERENCES

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Comment: 10. The proposed rule failed to address the economic impacts it may have on industrial stormwater dischargers. Industrial stormwater dischargers that are currently regulated by a stormwater permit, and all future industrial dischargers that will come into the program under Phase II will be required to comply with the proposed criteria. Cost of compliance with the proposed criteria for certain industries may be prohibitive, yet USEPA did not address this potential impact in its economic analysis. In addition many of these industries are small entities that should be addressed under the Regulatory Flexibility Act.

Recommendation: The proposed rule should not be promulgated until USEPA conducts an adequate economic analysis that addresses the economic impact the rule may have on industrial stormwater dischargers, including the impact to small industries.

Response to: CTR-027-010

EPA believes it that it has conducted an adequate analysis which addresses industrial stormwater dischargers and that the CTR must be promulgated under the Clean Water Act. For further discussion see responses to CTR-013-003 and CTR-013-008b.

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Comment ID: CTR-028-001b

Comment Author: City of Folsom

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-028 incorporates by reference letter CTR-040

Attachments? N

CROSS REFERENCES R

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Comment: The City is a small community with a population of less than 50,000. We volunteered to participate in the Sacramento Stormwater Management Program as a co-permittee on the NPDES permit because we understood that it was a BMP-based program aimed at reducing the discharge of pollutants to the maximum extent practicable. We are very concerned with the CTR's Preamble statement that municipal stormwater agencies must comply with effluent limitations based on water quality criteria. As the County has stated in its comments, this will result in enormous costs without producing significant environmental benefits.

We are also concerned that the EPA Administrator has certified that the CTR will have no effect on small entities such as the City. Based on the estimated compliance costs prepared by the County and the statewide estimates prepared by the California Storm Water Quality Task Force, the CTR will have significant economic effects on small communities throughout the State. For example, our proportional share of the countywide costs to comply with effluent limitations, based on the proposed water quality criteria, could be over \$10 million per year.

We urge EPA to reconsider its position that municipal stormwater discharges must comply with water quality standards. EPA should remove the Preamble statement or clarify that municipal stormwater

discharges are only required to reduce the discharge of pollutants to the maximum extent practicable.

Alternatively, EPA must revise its economic analysis to include the costs to municipal stormwater agencies and the EPA Administrator must withdraw her certification and, pursuant to the requirements of the Regulatory Flexibility Act, assess the economic impacts of the CTR on small entities.

Response to: CTR-028-001b

See response to Comment CTR-013-003, CTR-013-008b, and CTR-040-004.

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Comment ID: CTR-031-002d

Comment Author: Fresno Metro. Flood Ctrl Dist.

Document Type: Flood Ctrl. District

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-031 incorporates by reference letter CTR-027

Attachments? N

CROSS REFERENCES F

C-17a

C-17b

V

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Comment: 2. Since the preamble implies that CTR criteria may be applied in NPDES permits for municipal storm water dischargers as numeric effluent limitations, the proposed rule is flawed with regard to: a) setting attainable, scientifically valid criteria in a manner consistent with state and federal regulatory approaches; b) assessing the potential economic impact on the public served by municipal storm water dischargers; c) assessing environmental impacts pursuant to the National Environmental Policy Act and the Endangered Species Act; and d) providing for the coordinated review and evaluation of the proposed CTR in conjunction with the proposed State Implementation Plan.

Response to: CTR-031-002d

See response to CTR-013-003.

With respect to comments about the Endangered Species Act see response to CTR-031-002e (Category V; Collaborative Approach). With respect to the comment about coordination with the State Implementation Plan see response to CTR-031-008b (Category V; Collaborative Approach).

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Comment ID: CTR-031-006a

Comment Author: Fresno Metro. Flood Ctrl Dist.

Document Type: Flood Ctrl. District

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-031 incorporates by reference letter CTR-027  
Attachments? N  
CROSS REFERENCES R  
E-01c

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Comment: b. If the CTR as proposed in the current draft is applied to municipal storm water dischargers so as to require numeric effluent limitations in municipal stormwater permits, the cost to the public will be phenomenal. In the economic analysis of the CTR, EPA failed to consider these costs, and failed to consider the costs to industrial storm water dischargers as well.

The District Is urban storm water drainage system captures through retention 90% of its annual average runoff, and discharges 90% after detention (1% is directly discharged without treatment). The system cost in 1997 dollars is estimated at \$500 million.

The only option available to the District to mitigate violations of the proposed criteria would be to expand system storage to capture 100% of average annual runoff. Increasing system storage by 20,000 acre feet (estimated additional storage required for average years), at the current cost of \$11,000-\$20,000 per acre foot of storage, would result in a capital expenditure of \$220,000,000 to \$400,000,000.

Even with this exorbitant investment, in approximately half of the rain seasons storage would be exceeded, and 100% of the discharges would be expected to exceed the dissolved metals criteria noted above.

Smaller cities (under 50,000) in California are currently subject to NPDES municipal storm water discharge permits, and many more will be included upon implementation of the Stormwater Phase II program. EPA's failure to assess economic impacts on small cities would appear to be contrary to the requirements of the Federal Regulatory Flexibility Act.

The District includes in its constituency industrial businesses. The District serves these businesses and assists in the oversight of their pollution prevention and storm water permit compliance efforts. Regardless of EPA's approach to applying the CTR to municipal storm water permits, industrial storm water dischargers are directly and seriously affected by application of the CTR. EPA's failure to assess these economic impacts on our communities is short-sighted and a breach of good public policy.

Response to: CTR-031-006a

With respect to the commenter's estimate of its stormwater costs see response to CTR-040-004. With respect to EPA's compliance with the Regulatory Flexibility Act see response to CTR-013-008b.

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Comment ID: CTR-034-014e  
Comment Author: SCAP  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: J Storm Water Economics  
References: Letter CTR-034 incorporates by reference letter CTR-035  
Attachments? N

CROSS REFERENCES E-01g08

E-01b

E-01e

E-01v

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Comment: \* In general, we are pleased that EPA prepared an analysis of the economic impacts of the proposed CTR, and that a major portion of EPA's work focused on determining the potential impacts on POTWs. However, we believe that this analysis is based on improper assumptions and inaccurate cost estimates, resulting in unconvincing conclusions. Detailed comments can be found in Attachment 2. A few of the areas of concern are listed below:

- \* Small facilities appear to be under represented in EPA's sample of POTWS, especially for minor dischargers.
- \* The cost triggers used as regulatory relief thresholds are unrealistic, and are not consistent with EPA regulations and policies.
- \* The assumptions used to determine cost estimates for indirect dischargers appear to omit a large proportion of potentially affected industries.
- \* The Economic Analysis does not take into account projected population and industrial growth over time, which may influence effluent quality and quantity. Statewide, the population is projected to grow by nearly 50% by 2020.
- \* The use of average cost estimates masks economic impacts on individual dischargers, which may be particularly acute for small communities.
- \* The economic Analysis ignores the costs that may be incurred by stormwater dischargers and nonpoint sources to reduce loadings so that CTR criteria may be met in ambient waters.

Response to: CTR-034-014e

For analysis of the final CTR, EPA updated its Economic Analysis to reflect the most recent data and information for each sample facility and also increased the sample size for minor facilities. Based on this revised analysis, EPA estimated that minor POTWs will incur costs of approximately \$5,000 per facility per year under the low cost scenario and \$7,800 per facility per year under the high cost scenario.

EPA acknowledges that evaluating the impact of each individual direct discharger to inland waters, enclosed bays, and estuaries within the State of California would be the most accurate method to determine impacts of the CTR. However, the resources that would be required to perform such an analysis for each of the over 1,241 direct dischargers are beyond the resources typically available for development of environmental regulations. Therefore, in developing the methodology for estimating the compliance costs for the proposed CTR, time and budget constraints limited EPA's costing review to a subset of the regulated community. However, EPA believes that the sample selected adequately represents the various types of direct dischargers in the State.

EPA acknowledges that minor dischargers were sampled less frequently as compared to the major dischargers. However, by definition, under the NPDES permit program, facilities classified as minor would not be expected to discharge toxic pollutants in toxic amounts. Since the CTR addresses only

toxic pollutants, EPA would not expect significant, if any, impact to minor dischargers.

In analyses of the final CTR, EPA increased the sample of minors by five randomly selected facilities to bolster its analysis. EPA estimated costs of \$872 per minor facility under the low scenario, and \$2,682 per minor facility under the high scenario due to the CTR.

EPA also replaced Silvergate with South Bay in the sample in order to improve the estimate of the impacts of the CTR on the electric utility industry. The draft CTR cost analysis included costs for Silvergate, but the facility had closed and the data available was over five years old. The addition of South Bay, an electric utility facility with no costs, to the sample results in a more realistic, lower overall cost estimate for the electric utility industry.

As described in EA that accompanied the proposed CTR (SAIC and Jones and Stokes Associates, 1997), EPA assumed that regulatory alternatives such as phased total maximum daily loads/water quality assessments, site-specific criteria modifications, standards variances, metals translators, etc., are considered under certain circumstances. Specifically, under the low-end scenario, regulatory alternatives were assumed necessary if the cost for a sample facility exceeded \$200 per toxic pounds-equivalent.

EPA assumes that a facility, when faced with the challenge of meeting water quality-based effluent limitations (WQBELs) based on CTR criteria, will select the most cost-effective controls, including regulatory alternatives. In fact, this has been the case in California, where several major POTWs have performed studies in pursuit of regulatory alternatives such as metals translators and site-specific criteria, rather than install costly controls to comply with WQBELs. EPA acknowledges that the actual cost-effectiveness value will vary by facility depending upon many factors, including the characteristics and volume of discharge, the receiving water, etc. However, EPA disagrees that the cost trigger is unrealistic, as it was reasonably based upon the highest reported cost-effectiveness values for industry categories subject to effluent limitations guidelines and standards.

Nonetheless, in the high-end estimate developed for the cost analysis accompanying the final CTR, no cost trigger was used and, thus, EPA's high-end cost estimate did not include the use of a regulatory alternative for any sample facility.

Reference: SAIC and Jones and Stokes Associates, Inc. 1997. Analysis of Potential Costs Related to the Implementation of the California Toxics Rule. Prepared for U.S. EPA, Office of Science and Technology and U.S. EPA Region IX, May 5.

EPA disagrees with the commenter's assertion that the costs for San Jose and Sunnyvale cannot be used to extrapolate costs to indirect users at other POTWs. The procedures for identifying indirect sources contributing specific pollutants to POTWs and developing and implementing a source control plan to minimize these discharges are similar for all types of pollutants. Additionally, similar to San Jose and Sunnyvale, metals were the primary pollutants of concern for POTWs evaluated in the cost analysis. Apart from these studies, EPA has no data upon which to establish facility-level compliance costs for indirect dischargers. To account for this uncertainty, EPA has revised its assumption regarding the percentages of indirect dischargers that may incur these costs. The percentage of facilities that may incur these costs was revised from the initial estimate of from 10% to 30% to a new estimate of from 30% to 70%. EPA believes that these new estimates are highly conservative (i.e. tend to overestimate costs).

Average per facility investment costs for industrial participants were estimated using the mass audit studies for copper and nickel pollution prevention projects with paybacks of less than five years. The average cost per indirect discharger was estimated to be \$61,526 or \$15,000 per year at an interest rate of

7 percent and over a period of five years. The total annual costs to the indirect discharger population in California then were estimated by multiplying the annualized cost (\$15,000) by the total number of potentially affected indirect dischargers.

Under the MAS, the pounds removed by the pollution prevention projects with paybacks of less than five years were 560 pounds per year for copper and 148 pounds per year for nickel. Since neither San Jose nor Sunnyvale required nickel reductions, EPA did not consider pounds removed. Both San Jose and Sunnyvale did require copper reductions under the high-end cost analysis. For San Jose, required reductions equaled approximately 746 non-toxic-weighted pounds per year, however, for Sunnyvale, required reductions equaled 87 pounds per year. Since the industrial facilities to which the MAS results were applied are not as large as the San Jose facility (160 million gallons per day) whose reduction requirements exceed the MAS results, EPA estimated that load reductions from implementing the pollution prevention projects would be adequate.

EPA estimated annual (steady state) benefits and annualized costs. EPA also compared, 20- and 30-years streams of benefits and costs to account for differences in the schedule for experiencing benefits and costs (up-front capital cost and a phase-in of benefits). EPA did not forecast economic, demographic, or policy changes over these time periods. However, EPA does not expect changes in these variables to negatively impact the anticipated ratio of benefits and costs. Instead, EPA believes that increased population and economic activity in the future would likely increase the benefits of achieving standards for toxic pollutants in California waters compared to the cost of controls.

EPA selected sample facilities in order to represent different industry categories, but also various facility sizes with different flow magnitudes. For example, EPA analyzed POTW facilities which fell into three flow categories representing facilities serving very large, medium, and small communities. Costs were averaged for the sample facilities within each flow category for an industry type and then extrapolated to the universe of facilities which matched the industry type and the range in flow for that flow category. Thus, costs calculated for facilities operating in very large communities would not be applied to facilities serving very small communities.

EPA did not include benefits or costs of controlling nonpoint sources or storm water dischargers in its estimates of benefits and costs of the CTR. EPA believes that the final rule will not have a direct effect on sources not permitted under the NPDES program (e.g., nonpoint sources) or NPDES sources not typically subject to numeric water quality-based effluent limits (e.g., wet weather discharges). Any potential indirect effect on nonpoint sources and wet weather discharges, such as runoff from farms, urban areas, and abandoned mines, and contaminated sediment, is either unknown at this time or not a result of this rule. Many of the programs developed to control nonpoint sources and wet weather discharges are already in place. Costs due to these programs have already been incurred or will soon be incurred owing to existing federal, State, and local environmental programs that are distinct from the CTR.

EPA also acknowledges that nonpoint sources and wet weather discharges are technically difficult to model and evaluate costs because they are intermittent and highly variable. Nonpoint source and wet weather discharges also occur under different hydrologic or climatic conditions than continuous discharges from industrial and municipal facilities, which are evaluated under critical low flow or drought conditions. Thus, evaluating agricultural nonpoint source discharges and storm water discharges and their effects on the environment is highly site-specific and data intensive. Until this information is available, it is premature to project that the sources would incur any costs beyond those for which they are already responsible under current regulations of the Clean Water Act.

See also responses to CTR-013-003 and CTR-040-004.

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Comment ID: CTR-035-044c

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References:

Attachments? N

CROSS REFERENCES E-01c01

E-01d01

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Comment: pp. 42188-42189 - Potential Costs Do Not Meet the \$100 Million Threshold Under E 0. 12866 (also see discussion above) As noted on p. 42188, one component of the definition of a "significant regulatory action" is that the rule may have an annual effect on the economy of \$100 million or more. EPA states on p.42189 that "the annualized potential costs that direct and indirect dischargers may incur as a result of State implementation of permit limits based on water quality standards using today's proposed criteria are estimated to be between \$15 million and \$87 million." We believe that this range significantly underestimates the potential costs that may be realized from the implementation of this rule. This belief is based on the numerous assumptions used by EPA that would have served to underestimate potential costs, including assumptions about regulatory flexibility that are clearly contradicted in the Preamble to the rule itself. These issues are further enumerated in Attachment 2, which contains an analysis prepared by the environmental economics firm, M. Cubed. Furthermore, we strongly believe that EPA has a duty to look at a full range of potential costs that may be incurred, and not just to look at the costs under optimistic assumptions. This duty is especially acute in light of the uncertainties of how the CTR will be implemented by the State.

We examined the potential costs for the POTW sector to determine the reasonableness of EPA's cost estimates. Our preliminary analysis indicates that for 23 major POTWs the annualized costs could reach \$400 million.\*3 This estimate includes the cost to construct and operate end-of-pipe treatment processes where these would be necessary to achieve projected effluent limits. Unlike the EPA cost estimates, we have assumed that regulatory relief options may not be available, and that, based on the pollutants causing compliance problems, pollution prevention and treatment plant optimization might not be sufficient to reliably achieve compliance. Thus, we feel that this estimate reflects a more accurate depiction of the potential POTW "high-end" compliance costs that could result from the draft CTR. Based on this analysis, we believe that EPA should re-analyze the potential costs for POTWs to meet water quality-based effluent limits based on the criteria in the CTR.

As noted on p. ES-2 of the Economic Analysis (U.S. EPA, 1997a), EPA estimated only the costs to point sources, and did not estimate the potential costs for compliance for nonpoint source dischargers, despite the fact that the majority of water bodies in California are impaired due to nonpoint source discharges (SWRCB, 1996). In addition, EPA failed to estimate the costs of compliance for wet weather dischargers, such as municipal and industrial stormwater dischargers. These omissions also lead us to believe that the potential total costs of the rule are far greater than \$100 million. EPA must correct these deficiencies and redo the Economic Analysis.

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(\*3) Backup information for these cost estimates is available upon request.

Response to: CTR-035-044c

In response to comments received by EPA on the economic analysis that accompanied the proposed CTR, EPA collected additional data for the sample facilities. EPA also revised its estimate of potential compliance costs attributable to the CTR.

EPA's low estimate of total annualized costs of the final CTR is \$33.5 million per year and its high estimate is \$61.0 million per year. The low and high estimates vary based on whether effluent data or permit limits are used to assess the need for additional controls. They also vary based on whether or not alternative regulatory approaches, such as phased total maximum daily loads/water quality assessments, site-specific criteria modifications, standards variances, metals translators, etc., are considered under certain circumstances. EPA believes that its estimates of costs and benefits are sound.

EPA believes that several general observations can be made regarding studies submitted by commenters and how they differ from the EPA cost study for the final CTR. Many commenters assumed that the mere presence of a pollutant would result in costs to comply with a CTR-based WQBEL. It should be noted that the presence of a pollutant in an ambient inland water, enclosed bay, or estuary does not require permitting authorities to establish a WQBEL for that pollutant. The establishment of a permit limit is appropriate only where the permitting authority determines that a pollutant is likely to be present, and that the pollutant concentration has a "reasonable potential" to cause or contribute to an exceedance of the applicable water quality standard. Where the pollutant is not likely to be present, or is not present at levels that have reasonable potential to cause or contribute to a water quality standard exceedance, a WQBEL may not be necessary.

The majority of cost estimates provided by commenters include the costs for the addition of end-of-pipe treatment to achieve proposed CTR-based WQBELs. This was particularly the case when WQBELs were expected to be below analytical detection levels. EPA disagrees that end-of-pipe treatment is necessary to achieve CTR-based WQBELs in all cases. As discussed in SAIC (1995), there are documented cases where waste minimization or source control techniques have been used to comply with existing permit limits established below detection levels. Other examples include the Western Lake Superior Sanitary District (WLSSD), who after evaluating the costs involved to meet more stringent WQBELs for mercury with end-of-pipe treatment, concluded that pollution prevention techniques were the preferable control strategy. As a result, WLSSD published a guide designed to "assist wastewater treatment plant staff with creating and implementing their own mercury reduction projects." As a result of the efforts of WLSSD, effluent mercury levels were found to decrease from 0.58 parts per billion (ppb) to 0.015 ppb.

Although waste minimization or source controls are not always applicable, EPA assumes in its low estimate of costs that a facility would first evaluate whether process changes or modifications are feasible, prior to incurring costs for adding treatment.

In addition, many commenters assumed that compliance would be based on the WQBEL, regardless of whether it is below the analytical method detection level (MDL). This is not consistent with current practice. Instead, the State may use the "minimum level" (ML) (as defined in 40 CFR Part 136) as the required compliance point where a permit limit is established at a value below the MDL. The ML is a value at which the limited parameter can be accurately quantified, and is always greater than or equal to the MDL. To ensure that its cost estimates were conservative (i.e., erring on the side of higher costs),

EPA used the MDL as the compliance level. Although EPA used the pollutant MDL for costing purposes, the Agency acknowledges that estimating treatment costs for WQBELs below the MDL is speculative and likely unrealistic.

Finally, many of the commenters included costs related to installation of treatment for storm water discharges. As further described in the responses to CTR-021-008, CTR-013-003 and CTR-040-004, EPA believes that the final CTR will not significantly affect the current storm water program being implemented by the State, which includes the requirement to develop best management practices to control pollutants in storm water discharges. As such, EPA believes that inclusion of end-of-pipe treatment costs for storm water are inappropriate.

With respect to EPA's analysis of nonpoint source dischargers see response to CTR-034-014e.

Reference: SAIC. 1995. Assessment of Compliance Costs Resulting from Implementation of the Final Great Lakes Water Quality Guidance. Prepared for U.S. EPA, Office of Science and Technology, March 13.

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Comment ID: CTR-036-002a

Comment Author: County of Orange

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-036 incorporates by reference letters CTR-013, CTR-018, CTR-031, CTR-034 and CTR-040

Attachments? N

CROSS REFERENCES E-01c

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Comment: Cost to Implement the Proposed Rule

The inclusion of municipal stormwater discharges under the proposed rule renders the economic analysis invalid, noting municipal studies that show that stormwater discharges cannot comply with all of the proposed criteria with anything short of major national or regional product substitutions, or end-of-pipe treatment:

The Fresno Metropolitan Flood Control District conducted an attainability analysis on stormwater discharges from its urbanized area detention basins. The analysis showed that even with pollutant reductions in the basins, the proposed criteria would not be met.

The Sacramento Stormwater Program conducted an attainability analysis and found that even with an aggressive BMP program the urbanized area would not achieve certain of the water quality criteria, and that the cost of treatment would be on the order of \$2 billion.

A preliminary attainability analysis conducted by Orange County, based on a limited dataset, indicates similar findings to Fresno and Sacramento in spite of the implementation of a significant BMP program over a multi-year period (see Attachment 2).

A nationwide attainability study, conducted by American Public Works Association in 1992, estimated capital costs and annual operations costs to be \$406,734,900,000 and \$542,036,700,000. Significantly, these estimates omitted the costs associated with engineering, administration, permitting and land acquisition.

Even if end-of-pipe treatment were to be implemented for all urban stormwater, the contribution of toxic pollutants from this source is so minor (less than 3% according to the economic analysis) that they could not be justified by the marginal water quality benefits achieved. Clearly a rule that is known from the outset to inevitably result in massive expenditures which provide little water quality benefit or inevitable municipal noncompliance is not appropriate for California.

The rulemaking process of the federal government is obligated to fully explore the economic implications of the proposed regulatory action through compliance with Executive Order 12866, the Unfunded Mandates Report Act, of 1995 (the "Reform Act"), and the Regulatory Flexibility Act (the "RFA"). In its economic analysis EPA appears to have understated costs and circumvented these requirements resulting in a lack of disclosure of the true impacts of the Rule.

Executive Order 12866 requires any "significant" federal regulatory action to be referred to the Office of Management and Budget for review before it can be approved. In this context a "significant" action includes one which will "have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy". Though admitting that there "may be a cost to some dischargers" to comply with water quality standards which will be derived from these toxics criteria, EPA nonetheless argues that the proposed rule is not a significant action because it "establishes ambient water quality criteria which, by themselves, do not directly impose economic impacts." [62 Fed. Reg. 42188].

First nothing in E.O. 12866 indicates that only actions with direct economic impacts are to be considered by OMB. Second, for EPA to ignore the link between the toxics criteria contained in the proposed rule and the obligations they impose is unfounded.

In short, EPA cannot have it both ways. It cannot indicate that stormwater discharges are subject to the proposed toxics rule and then turn a blind eye toward the costs associated with implementation of this rule. The costs of the proposed rule are direct and significant, greatly exceeding the annual % 100 million threshold, and therefore the rule must be submitted to OMB for review.

Response to: CTR-036-002a

EPA believes it properly described the potential impact of the implementation of the CTR on storm drains in the preamble to the proposed CTR and in its Economic Analysis (for further discussion see response to CTR-013-003). With respect to the analyses by the Fresno Metropolitan Flood District and the Sacramento Stormwater program see response to CTR-040-004. EPA believes it is in full compliance with its legal obligations under Executive Order 12866 (see response to CTRH-002-006a; Category I: Stormwater/Wet Weather Flows), the Regulatory Flexibility Act (see the preamble to today's rule, response to CTR-013-008b, and CTR-050-007a), and the Unfunded Mandates Act (see the preamble to today's rule and response to CTR-036-006a).

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Comment ID: CTR-036-003b  
Comment Author: County of Orange  
Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-036 incorporates by reference letters CTR-013, CTR-018, CTR-031, CTR-034 and CTR-040

Attachments? N

CROSS REFERENCES S

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Comment: EPA also has failed to meet its obligations under the Unfunded Mandates Reform Act of 1995 (the "Reform Act"). As with E.O. 12866, the Reform Act requires federal agencies to assess the effects of their regulatory actions on state, local and tribal governments, and on the private sector [U.S.C. section 1531]. Among other things, the Reform Act requires the preparation of a cost-benefit analysis and the examination of a range of alternatives, whenever the proposed action may result in expenditures in excess of \$100 million [2 U.S.C. sections 1532, 1535]. In addition, the Reform Act contains a number of specific requirements where an action may significantly or uniquely impact small governments [2 U.S.C. section 1533].

EPA asserts again that it does not have to comply with the Reform Act because the proposed rule "imposes no direct enforceable duties on the State or any local government or on the private sector." [62 Fed. Reg 42160, 42191]. For the reasons discussed earlier, this assertion is without merit. As EPA acknowledges, these criteria will serve as the basis for any water quality standards promulgated by the State, which in turn will be binding on local government and private industry. Unless EPA is prepared to view these criteria as being optional, it therefore cannot in good conscience state that they do not create an enforceable duty. Given this, EPA must comply with the mandates of the Reform Act

Response to: CTR-036-003b

With respect to EPA's compliance with UMRA see response to CTR-036-006a (Category S:UMRA) and the preamble to the final rule.

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Comment ID: CTR-036-004a

Comment Author: County of Orange

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-036 incorporates by reference letters CTR-013, CTR-018, CTR-031, CTR-034 and CTR-040

Attachments? N

CROSS REFERENCES R

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Comment: Finally, EPA has not met its duties under the Regulatory Flexibility Act (the "RFA"). Under the RFA, federal agencies are required to conduct an initial regulatory flexibility analysis ("IRFA") describing the impact of a proposed regulatory action on small entities. Once more relying on the claim that the proposed rule does not establish criteria that are directly applicable to small entities, EPA states that the mandates of RFA do not apply [62 Fed. Reg. 41160, 42191-92].

This position is contrary to both the letter and the spirit of the RFA. The fact that the toxics criteria contained in the proposed rule must be translated into water quality standards and, in turn, NPDES permit effluent limitations, does not negate the fact that the burden of complying and implementing such toxics criteria ultimately will be borne by individual municipalities and business entities. As noted above, the costs to municipalities alone could run into billion of dollars placing a severe strain on their budgets and forcing them to divert funds currently allocated to other important municipal services, including public safety.

Moreover, EPA's statement that "California will have a number of discretionary choices associated with permit writing" is disingenuous and ironic in light of EPA's rationale for issuing the proposed rule. The toxics criteria will necessarily narrow the State's discretion in issuing NPDES permits and in establishing effluent limits for such permits. If EPA had meant for the State to have any serious discretion, it would not be promulgating these criteria in the first place.

Response to: CTR-036-004a

The purpose of the CTR is to fill the current gaps in water quality criteria in inland surface waters, enclosed bays, and estuaries. EPA disagrees that the State will not have substantial discretion in issuing NPDES permits under the rule. The CTR establishes pollutant levels necessary to protect designated uses. Establishing numeric criteria in the CTR does not limit the discretion of permit writers to use appropriate and flexible tools such as mixing zones or translators for dissolved metals criteria in establishing effluent limits. In addition, if a discharger believes the CTR criterion is inappropriately overprotective of the designated use, the discharger can request the State and EPA to approve a site-specific criterion or to downgrade the designated use.

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Comment ID: CTR-040-004

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: MAJOR CONCERNS

We do, however, have fundamental concerns with the Rule as it is presently proposed and its supporting economic analysis. We believe the Rule can be modified in a manner that will be responsive to our concerns while at the same time being consistent with applicable Federal law and regulations. Our major concerns are presented here and are followed by our recommended modifications.

1. Concern: The Rule, as presently proposed, appears to require discharges from municipal stormwater programs to meet water quality based effluent limits (WQBELs).

\* The enclosed attainability analysis (See Attachment A) demonstrates that implementation of an

aggressive BMP-based program will cost on the order of \$20 million per year. And, despite the implementation of ever escalating BMPs, the Sacramento Stormwater Management Program will not achieve several of the proposed aquatic life criteria (for copper, lead, and zinc) and human health criteria (for PAHs).

Response to: CTR-040-004

EPA disagrees with the commenter's interpretation of the language regarding wet weather discharges in the proposed CTR, and has clarified the language in the section of the CTR that discusses the applicability of the rule to wet weather discharges. EPA believes that the CTR language allows the practice of applying maximum extent practicable (MEP) to MS4 permits, along with best management practices (BMPs) as effluent limits to meet water quality standards where infeasible or insufficient information exists to develop WQBELs.

Section 402(p)(3)(B) requires municipal separate storm water systems to 1) prohibit non-storm water discharges, and 2) reduce the discharge of pollutants in storm water to MEP. The Agency has purposely not defined MEP to allow municipalities flexibility in designing pollution control measures. MEP is a dynamic performance standard which requires the municipality to demonstrate permit compliance in many ways including the use of BMPs, proper maintenance of their BMPs, and ongoing assessment of BMP performance in reducing pollutant discharges. EPA has determined that, where sufficient information does not exist on which to base WQBELs, or where infeasible, the use of BMPs is consistent with the requirement that municipal storm water programs require controls to reduce the discharge of pollutants to MEP in order to attain and maintain water quality standards.

EPA articulated its position on the use of BMPs in storm water permits in the Interim Permitting Approach For Water Quality-Based Effluent Limitations In Storm Water Permits signed by the Assistant Administrator for Water, Robert Perciasepe on August 1, 1996 (61 FR 43761, August 19, 1996). The policy focuses on the question of the applicability of WQBELs to MS4 permits, and whether or not numeric effluent limitations are required, or could be represented by other control mechanisms such as BMPs. The policy affirms the use of best management practices as a means to attain water quality standards in storm water permits. The policy reads as follows:

In response to recent questions regarding the type of water quality-based effluent limitations that are most appropriate for National Pollutant Discharge Elimination System (NPDES) storm water permits, the Environmental Protection Agency (EPA) is adopting an interim permitting approach for regulating wet weather storm water discharges. Due to the nature of storm water discharges, and the typical lack of information on which to base numeric water quality-based effluent limitations (expressed as concentration and mass), EPA will use an interim permitting approach for NPDES storm water permits.

The interim permitting approach uses best management practices (BMPs) in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards. In cases where adequate information exists to develop more specific conditions or limitations to meet water quality standards, these conditions or limitations are to be incorporated into storm water permits, as necessary and appropriate.

This interim permitting approach is not intended to affect those storm water permits that already include appropriately derived numeric water quality-based effluent limitations. Since the policy only applies to water quality-based effluent limitations, it is not intended to affect technology-based limitations, such as those based on effluent guidelines or the permit writer's best professional judgement, that are incorporated into storm water permits.

Each storm water permit should include a coordinated and cost-effective monitoring program to gather necessary information to determine the extent to which the permit provides for attainment of applicable water quality standards and to determine the appropriate conditions or limitations for subsequent permits. Such a monitoring program may include ambient monitoring, receiving water assessment, discharge monitoring (as needed), or a combination of monitoring procedures designed to gather necessary information.

This interim permitting approach applies only to EPA; however, EPA also encourages authorized States and Tribes to adopt similar policies for storm water permits. This interim permitting approach provides time, where necessary, to more fully assess the range of issues and possible options for the control of storm water discharges for the protection of water quality. This interim permitting approach may be modified as a result of the ongoing Urban Wet Weather Flows Federal Advisory Committee policy dialogue on this subject.

EPA also reviewed the attached report entitled "Technical Report Assessing the Attainability of Water Quality Criteria Proposed in the California Toxics Rule," a report prepared for Sacramento County Stormwater Management Program by Larry Walker Associates (LWA). In response, EPA has the following concerns and comments regarding various aspects of the report and its conclusions.

#### General Limitations of the Analysis

- \* LWA do not provide the raw data upon which they base their conclusions regarding potential compliance problems with the proposed CTR water quality criteria. Without the raw data, EPA could not fully assess the validity of the analysis.
- \* The data may not be representative of the storm water discharges to the American and Sacramento Rivers. Most samples were collected for first-flush events, usually one hour or less in duration. As a result, the in stream exposure period is probably one hour at most, which corresponds to the exposure period for acute criteria, not chronic criteria as used in the LWA analysis.
- \* LWA report that applying BMPs to storm water would not result in attainment of criteria as proposed in the CTR. However, LWA focus on the most stringent (and unlikely) scenario for attainability of criteria (i.e., applying chronic criteria with no allowance for dilution). According to LWA's own analysis, BMPs would nearly achieve compliance under the scenario of applying acute criteria and dilution factors to storm water flows. If mathematical errors in LWA's Table's 11 and 12 are corrected, the analysis demonstrates compliance with acute criteria for even the 99.91 percentile values of copper, lead, and zinc in the Sacramento River, and for lead in the American River, with no additional treatment.
- \* The analysis also may not be reflective of the compliance scenario for other California waters. The metals criteria are based on a low hardness value for the American River (25 mg/l as CaCO<sub>3</sub>). This hardness value is lower than any of the hardness values observed for the economic analysis of sample facilities throughout California. As a result, the criteria for the American River are very stringent (i.e., criteria become more stringent with lower hardness) compared to criteria for California waters in general.
- \* LWA compare the concentration of the dissolved fraction of metals in the discharge to the instream criterion values expressed as dissolved metals to assess compliance. This approach may be overly stringent because it does not account for the partitioning of dissolved metals present in the discharge to suspended solids present in receiving waters (particularly during a storm event when suspended solids are elevated). Thus, less dissolved metals may be available in the water column than LWA's analysis

would estimate. In addition, this is not the approach that is used to determine compliance under the NPDES program. The NPDES regulations require all permit limits for metals to be expressed in terms of "total recoverable metals" [40 CFR 122.45]. In order to determine whether a discharge would meet NPDES permit limits developed to protect water quality, the instream criteria should not be used directly, but should be converted to a water quality-based effluent limit (WQBEL) using the EPA standards-to-permits procedures. The development of WQBELs expressed as total recoverable metals accounts for the partitioning of dissolved metals (present in the discharge) to suspended solids that are present in the receiving water. EPA used this approach in its cost evaluations.

\* Cost estimates provided in the LWA analysis for complying with the CTR appear to mix BMP implementation costs to comply with Sacramento's storm water permit with new compliance costs resulting from the CTR. EPA's economic analysis only evaluates the incremental impact of the water quality standards for toxics compared to the baseline program to avoid a double counting of costs (and benefits).

### Specific Data and Sampling Issues

\* LWA calculated average event mean concentrations (AEMC) to represent the entire urbanized drainage area of Sacramento County. Samples were combined to calculate AEMCs (based on contributions of 95% commercial/residential and 5% industrial) utilizing three sampling locations. Although LWA indicate that both grab and composite samples were collected to estimate the AEMCs, as well as annual loadings, it is unclear how the different sample types were used. According to the EPA's Guidance Manual For The Preparation of Part 2 of the NPDES Permit Applications for Discharges From Municipal Separate Storm Sewer Systems (EPA 833-B-92-002), an event mean concentration (EMC) is determined from analyses of flow-weighted composite samples. In order to qualify as a valid sample, the storm event must be sampled for at least three hours, or for the entire storm if the event lasts less than three hours. Of great importance in such derivations is consistency in methodology, i.e., the first method employed must always be employed to ensure that results can be compared. LWA do not provide any information to confirm the consistency of sampling procedures.

\* LWA completed a discharge characterization project (DCP) for storm water discharges in 1996 (not included as part of commenter's submission). LWA state that the DCP evaluated all urban runoff monitoring data available. However, it is not clear whether the data set used for the DCP was the same as that analyzed for the current report, or whether it was more extensive. LWA state that the DCP used "statistical modeling" (unnamed methodology) to "characterize and estimate" mass loadings. They also state that data on heavy metals, conventional and non-conventional pollutants were "updated for 1996/1997 data. However, they do not report which procedures governed the "update," whether the data sets were consistent, or under what circumstances they were sampled and analyzed. EPA believes that this lack of information makes it impossible to evaluate the methodologies used to extrapolate the data set and draw conclusions as to its appropriateness in demonstrating nonattainability of toxic criteria. In addition, LWA cite a "robust statistical method" for deciding whether to use detection limit values for nondetect data. This method is not described.

\* It appears from Charts 1 through 5 presented in the report, that LWA use a limited data set (not included as part of commenter's submission) for each of the pollutants of concern, and use statistical projections to predict "worst case" (i.e., 95th, 99th, and 99.91th percentiles) discharge values. These predicted discharge concentrations are then used to assess whether instream criteria would be met. This is an extremely conservative approach that would not be used by EPA to establish compliance with water quality-based effluent limits or water quality criteria. To assess the potential for metals and organics to exceed aquatic life and human health criteria during intermittent, high flow, storm water episodes, a

complex dynamic modeling effort would be required. This procedure is highly data intensive, and is beyond the scope of this costing analysis; nevertheless, it should have been employed in the LWA analysis to accurately determine the potential for exceedances of criteria. The generalized technical approach for assessing compliance with the applicable criteria is described in EPA's Technical Support Document for Water Quality-Based Toxics Control (March 1991). For typical point sources, this is performed by developing wasteload allocations (using steady-state models, under low flow conditions) and developing WQBELs based on these wasteload allocations. The process of developing wasteload allocations and WQBELs that would be protective of applicable criteria during storm events is significantly more difficult, and is not described in current EPA guidance. The EPA Center for Exposure Assessment Modeling (CEAM), located at the National Exposure Research Laboratory in Athens, Georgia, maintains and distributes environmental simulation models and databases for urban and rural nonpoint sources. Information on dynamic models and their use for storm water modeling can be obtained through CEAM.

#### Cost Methodology Issues

\* It is unclear why Tables 7 and 7a were included in the analysis. These tables appear to present costs associated with the implementation of the BMPs required by the current Sacramento MS4 permit. They are, therefore, distinct from any incremental attainment costs associated with treatment of storm water due to water quality criteria. The potential costs resulting from the alternative of collecting and treating all storm water prior to discharge are summarized in Figure C, however, no details, explanatory notes, or assumptions are presented in support of this estimate.

\* Figure B states that capital costs range from \$160 to \$187 million. However, EPA notes that only the higher value is presented in the summary. The choice to use only the higher value is not explained. It appears that the difference in the values results from the assumed level of engineering and other costs (50% of capital costs, as opposed to 30%, see Table 7). Other published sources have traditionally used a percentage more consistent with the lower of the two values referenced in Table 7 (see, for example, Estimating Costs for the Economic Benefits of RCRA Noncompliance, U.S. EPA, March 1997, page 1-4, where the percentage increase due to engineering and inspection, contractor's overhead and profit, and contingency is 35%).

#### Other Methodological Issues

\* LWA do not clearly state what proportion of the County's runoff enters the American River versus the Sacramento River. LWA base their presentation largely on discharges to the American River which has a two-fold lower hardness concentration, resulting in the most stringent metals criteria. As noted above, a hardness value of 25 mg/l (as CaCO<sub>3</sub>) is on the very low end of the range for receiving waters considered in the CTR analysis.

\* LWA focus their presentation on the "no dilution" scenario. However, both the American and Sacramento Rivers provide substantial dilution (reducing runoff concentrations by 51% and 86%, respectively). The analysis developed in the LWA report summarizes the results of this evaluation in Tables 11 and 12. In presenting the data, the LWA evaluation incorrectly calculates the dilution provided by the Sacramento River. When correctly calculated, the analysis indicates that the acute criteria for all of the metals would be met at the 99.91 percentile value in the Sacramento River. In addition the acute criterion for lead would be met for the American Rivers. Furthermore, compliance with copper and zinc criteria would practically be achieved assuming dilution and implementation of BMPs (i.e., 70% reduction of copper and zinc by BMPs). In their assessment of instream mixing, the LWA analysis used ambient background pollutant concentrations presented in Tables 11 and 12. While

all other values are indicated as "dissolved" concentrations, no such note is provided for the background data. If these values are expressed as total metals it would overestimate the background load and thus underestimate the available assimilative capacity of the stream.

\* Similarly, the LWA does not account for in-stream dilution in its evaluation of the potential for PAH compounds and pentachlorophenol to exceed human health criteria. In its evaluation, LWA again projects worst case (i.e., 95th, 99th, and 99.91th percentile) storm water concentration values and compares these values directly to ambient human health criteria. This approach significantly overestimates the potential for exceeding these criteria. Human health criteria are developed assuming a lifetime exposure to the pollutant at a daily ingestion rate of 2 liters of drinking water and ingestion of an assumed mass of aquatic organisms. To account for such long term exposures, EPA permitting procedures recommend using typical stream flows (e.g., harmonic mean) in developing wasteload allocations. The calculated wasteload allocations are also assumed to represent long-term averages (i.e., average monthly permit limits) rather than maximum daily values. Depending on the available dilution, this approach generally results in WQBELs much higher (i.e., less stringent) than the actual criterion values. Based on LWA projections, it appears that even a small allowance for dilution would resolve the compliance concerns for pentachlorophenol. The potential for compliance concerns identified by LWA for PAH compounds could only be accurately determined based on the results of the dynamic modeling assessment previously discussed.

\* In calculating the allowable discharge concentration ( $C_e$ ) for lead and zinc, LWA used detection level values for ambient background concentrations even though no lead or zinc were measured. Since background concentrations may actually be significantly lower than the detection level, this may result in an overly stringent  $C_e$  (and thus more costly to achieve).

Comments from the Fresno Metropolitan Flood Control District (Fresno) and the California Department of Transportation (Caltrans)

EPA also reviewed comments submitted by the Fresno Metropolitan Flood Control District (Fresno) and the California Department of Transportation (Caltrans) on the CTR provisions relating to storm water. In response, EPA has the following concerns and comments regarding various aspects of the submissions and their conclusions. Some of these issues are addressed in the above review of LWA's submission and are so referenced.

#### General Limitations of the Analysis

\* Neither Fresno nor Caltrans provide the raw data upon which they base their conclusions regarding potential compliance problems with the proposed CTR water quality criteria. Without the raw data, EPA could not fully assess the validity of the analysis.

\* Caltrans' data came from eight storm events at three urban freeway sites in the Los Angeles area, but the sampling methodology is not specified (i.e., first flush, peak, outfall, street, etc.). The data may not be representative of the storm water discharges for all Caltrans facilities. Fresno does not specify the sampling methodology nor the number of sites or storm events sampled.

\* Fresno reports that applying BMPs (including end-of-pipe) to storm water would not result in attainment of criteria as proposed in the CTR. However, Fresno presents a stringent (and unlikely) scenario for attainability of criteria (i.e., applying chronic criteria).

\* Caltrans reports that applying source reduction and nonstructural BMPs will not provide the reduction

necessary to meet the criteria. End-of-pipe treatment would be required. Although acute criteria are used in this analysis, no data or estimates are provided to demonstrate that BMPs would not result in reductions needed to comply with properly developed WQBELs.

\* The analysis also may not be reflective of the compliance scenario for other California waters.

\* Fresno and Caltrans compare the concentration of the dissolved fraction of metals in the discharge to the instream criterion values expressed as dissolved metals to assess compliance. See the response to LWA for EPA's discussion of the problems with this approach.

\* Cost estimates provided in the Fresno and Caltrans analysis for complying with the CTR may mix BMP implementation costs to comply with local storm water permits with new compliance costs resulting from the CTR. EPA's economic analysis only evaluates the incremental impact of the water quality standards for toxics compared to the baseline program to avoid a double counting of costs (and benefits).

#### Specific Data and Sampling Issues

\* Caltrans specifies that consistent procedures were used at all three sampling sites, but it does not specify the exact methodology (i.e., sampling duration, first flush, etc.). Of great importance in data analysis is consistency in methodology, i.e., the first method employed must always be employed to ensure that results can be compared.

Fresno does not describe its sampling procedures or methodology.

\* Caltrans uses a limited data set (not included as part of commenter's submission) for each of the pollutants of concern, and uses statistical projections to predict "worst case" (i.e., 99.91th percentile) discharge values. These predicted discharge concentrations are then used to assess whether in stream criteria would be met. This is an extremely conservative approach that would not be used to establish compliance with water quality-based effluent limits or water quality criteria because compliance is based on measured values and not on statistically derived worst case values.

#### Summary and Recommendations

The LWA report was based on storm water data collected at outfalls discharging to the American and Sacramento Rivers. The report did not provide the raw data, nor did it provide detailed information on how these data were collected. The primary scenario described in the report (i.e., comparing projected worse case discharge concentrations directly to chronic aquatic life and human health criteria with no allowance for dilution) is highly conservative in comparison with the water quality-based permitting and compliance procedures that would be implemented by EPA. The LWA analysis also did not consider the equilibrium partitioning of dissolved and total metals that may occur instream during a storm event. An ancillary analysis summarized in the LWA report compared the maximum projected discharge concentrations (99.91 percentile values) of copper, lead, and zinc to the acute aquatic life criteria accounting for dilution. If errors are corrected in the LWA spreadsheet, the LWA data indicate that there would be no compliance problems for these parameters in the Sacramento River, and that BMPs would likely result in compliance in the American River. While the LWA analysis provides information that could be useful in determining "reasonable potential" for possible WQBEL development, the approach is not consistent with water quality-based permitting procedures or EPA's approach to compliance assessment.

To accurately determine whether additional treatment would be necessary to control storm water discharges to the American and Sacramento Rivers, EPA would conduct a comprehensive modeling effort to develop appropriate WQBELs. The WQBELs (for organics and total metals), would be developed using dynamic models to account for the intermittent loadings and exposures from the storm water discharges. EPA recognizes that the determination of appropriate WQBELs for storm water outfalls is a difficult modeling effort that requires intensive data collection and verification. The LWA report has not utilized this approach, and the necessary level of effort is not within the scope of the agency's CTR analysis.

In summary, the CTR language allows (consistent with EPA's policy) the practice of applying MEP to MS4 permits, along with BMPs as effluent limits to meet water quality standards where infeasible or insufficient information exists to develop WQBELs. Neither the LWA report, nor the Fresno and Caltrans comments, provide a definitive argument that storm water dischargers cannot achieve compliance with the proposed water quality criteria or that compliance would result in widespread economic impact or hardship. Although none of the three comment submissions discussed above provide the raw data used for their analyses for EPA to fully assess the validity of the analyses, their methodology does not assess compliance with WQBELs as would be developed by EPA. In particular, the assessments do not account for dilution or the partitioning of dissolved metals to suspended solids present in the receiving waters. LWA and Caltrans also do not apply the appropriate criteria in assessing compliance and use statistical projections to predict "worst case" discharge concentrations, an approach that would not be used to establish compliance with WQBELs or water quality criteria. In addition, LWA's estimated costs do not accurately portray the incremental expense to Sacramento County resulting from implementation of the CTR, that is, the costs attributable to the CTR criteria that are over and above the cost of implementing the current storm water program.

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Comment ID: CTR-040-006

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: MAJOR CONCERNS

We do, however, have fundamental concerns with the Rule as it is presently proposed and its supporting economic analysis. We believe the Rule can be modified in a manner that will be responsive to our concerns while at the same time being consistent with applicable Federal law and regulations. Our major concerns are presented here and are followed by our recommended modifications.

1. Concern: The Rule, as presently proposed, appears to require discharges from municipal stormwater programs to meet water quality based effluent limits (WQBELs).

\* In order to achieve WQBELS, it will be necessary to intercept all of the urban runoff from the Sacramento metropolitan area (including that discharged to urban streams and the American River),

transport it to an area near the Sacramento River for equalizing storage and subsequent end-of-pipe treatment, and then discharge it to the Sacramento River (See Attachment A). The capital cost of this structural control program is estimated to be on the order of \$2.5 billion. Amortizing that cost over a 20-year period, at 7% interest and including annual operation and maintenance costs, the total annual cost to bring Sacramento urban stormwater into compliance with the proposed criteria is on the order of \$260 million per year.

\* Even this enormously expensive end-of-pipe treatment will not guarantee achievement of the proposed criteria (e.g., PAH removals of 99% may not be achievable with the proposed end-of-pipe treatment which formed the basis of the cost estimate).

Further, as indicated in the attainability analysis provided in Attachment A, this \$260 million per year program may not result in any net environmental benefits. Extensive ambient river monitoring over the past five years has shown that copper, lead, and zinc levels in the American and Sacramento Rivers generally comply with the proposed criteria and are not significantly impacted by stormwater discharges (PAH data are not available). On the other hand, the removal of stormwater discharges from the urban streams would likely have a negative environmental impact. It would lead to destruction of the aquatic and riparian habitat which currently exists. Thus, this \$260 million per year program would not lead to any of the types of benefits that formed the basis of EPA's benefits analysis, including fishing use benefits, reduced cancer benefits, or passive benefits. In this case, the cost is \$260 million per year and there may be no net environmental benefits. Therefore, pursuant to Presidential Executive Order 12866 and the Unfunded Mandates Reform Act, -EPA should consider alternative criteria for copper, lead, zinc and PAHs for those waters in the Sacramento area.

Response to: CTR-040-006

See response to CTR-040-004.

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Comment ID: CTR-040-007

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

**CROSS REFERENCES**

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Comment: MAJOR CONCERNS

We do, however, have fundamental concerns with the Rule as it is presently proposed and its supporting economic analysis. We believe the Rule can be modified in a manner that will be responsive to our concerns while at the same time being consistent with applicable Federal law and regulations. Our major concerns are presented here and are followed by our recommended modifications.

II. Concern: The economic analysis upon which the Rule is based is seriously flawed.

\* Consideration of any costs to urban stormwater dischargers is not included in the analysis.

Response to: CTR-040-007

See response to CTR-013-003.

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Comment ID: CTR-040-010a

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES R

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Comment: MAJOR CONCERNS

We do, however, have fundamental concerns with the Rule as it is presently proposed and its supporting economic analysis. We believe the Rule can be modified in a manner that will be responsive to our concerns while at the same time being consistent with applicable Federal law and regulations. Our major concerns are presented here and are followed by our recommended modifications.

\* The cities of Folsom and Galt, co-permittees in our stormwater program, both have populations less than 50,000. Their costs associated with complying with the effluent limitations proposed in the Rule would be significant (on the order of \$10 million annually for each city). Therefore, the EPA Administrator's certification that the Rule would have no effect on small entities, pursuant to the requirements of the Regulatory Flexibility Act, is incorrect.

Response to: CTR-040-010a

See response to CTR-013-008b.

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Comment ID: CTR-040-014b

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES I-02

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Comment: RECOMMENDED MODIFICATIONS

To address our concerns, we recommend the following modifications which do not undermine the toxic pollutant control actions envisioned in EPA's economic analysis (e.g., BMPs for stormwater and source control). In fact, some of these recommendations would provide incentives for greater movement toward achieving the water quality criteria than would occur under the Rule as it is currently proposed.

I. Recommendation: Modify the Preamble statement that indicates municipal wet weather discharges must comply with water quality standards or WQBELs (Preamble pages 42186-42187).

\* It is not a requirement of the CWA or EPA that wet weather discharges must meet water quality criteria. If it were, the adverse economic impact on municipal stormwater programs would be enormous. The CWA, at best, is ambiguous on this issue; EPA regulations do not address it; and the Elliott memorandum, which appears to be the primary basis for EPA's position on this issue, is not a legitimate basis for such a position. The Elliott memorandum is an internal EPA memorandum and; therefore, is not an independent interpretation of the CWA. The Elliott memorandum does not constitute EPA policy and is based upon a false premise and an inaccurate reading of the preamble to EPA's 1988 proposed stormwater regulations. The Elliott memorandum contains other erroneous conclusions that have never been applied to municipal stormwater permits (e.g., that municipal stormwater dischargers must comply with water quality standards within three years of permit issuance).

\* EPA has routinely approved municipal stormwater NPDES permits that have not included requirements to comply with water quality standards (e.g., Tulsa, OK; Greensboro, NC; Denver, CO; Portland, OR; Cedar/Green (Seattle), WA; Sarasota County, FL; and Phoenix, AZ).

\* If EPA does not modify the Preamble statement to clarify that municipal stormwater dischargers are not required to comply with these water quality standards, then EPA must include the cost of the structural controls necessary for compliance in its economic analysis and, using these costs, address the requirements of Presidential Executive Order 12866, the Unfunded Mandates Reform Act, and the Regulatory Flexibility Act.

Response to: CTR-040-014b

EPA believes the applicability of water quality standards to storm water discharges is outside the scope of the rule. See response to CTR-001-003. With respect to the comment about potential costs to municipal storm water dischargers see responses to CTR-040-004 and CTR-021-006a.

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Comment ID: CTR-047-003

Comment Author: City of Santa Fe Springs

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-047 incorporates by reference letters CTR-013 and CTR-027.

Attachments? N

CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our storm water program:

3. In its analysis, the USEPA appears to assume that a BMP program will lead to compliance and that there is no associated cost for a BMP Program (over and above what an MS4 has in place already). Studies conducted by the County of Sacramento and Fresno Metropolitan Flood Control District shows this to be incorrect, i.e., a BMP program cannot comply with the proposed criteria. Furthermore, these studies show that the cost for a BMP program is significant and would increase substantially if an MS4 was required to construct end-of-pipe treatment for compliance. The USEPA should not implement the proposed criteria to MS4 discharges until such time as an adequate economic analysis addressing the true impacts to MS4 dischargers is conducted and assessed.

Response to: CTR-047-003

See response to CTR-013-003.

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Comment ID: CTR-047-004a

Comment Author: City of Santa Fe Springs

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-047 incorporates by reference letters CTR-013 and CTR-027.

Attachments? N

CROSS REFERENCES R

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our storm water program:

4. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly by the proposed rule. In California, there are many small communities that are currently co-permittee to MS4 permits. Many of the larger municipalities in California have conducted storm water discharge characterization studies. These studies have shown that there are common pollutants associated with storm-water discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule, it indicates that there are no small entities to be impacted by the rule, and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to MS4 permits, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis on the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

Response to: CTR-047-004a

See response to CTR-013-008b.

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Comment ID: CTR-059-023b

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES E-01g08

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Comment: Economic Analysis

The Sanitation Districts commends EPA for preparing an analysis of the economic impacts of the proposed CTR, and for selecting POTWs for half of the case studies. We believe that EPA is correct in thinking that POTWs are likely to experience major impacts as a result of the promulgation of the CTR. However, we believe that this analysis is based on improper assumptions and inaccurate cost estimates, resulting in unconvincing conclusions. Our own attainability and cost analysis indicates that there are indeed fundamental flaws in the cost analysis. A few of the areas of concern are listed below:

\* The Economic Analysis ignores the costs that may be incurred by stormwater dischargers and nonpoint sources to reduce loadings so that CTR criteria may be met in ambient waters.

Response to: CTR-059-023b

See response to CTR-013-003.

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Comment ID: CTR-061-002

Comment Author: G. Fred Lee & Associates

Document Type: Academia

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References:

Attachments? Y

CROSS REFERENCES

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Comment: By far, the greatest deficiency with the CTR is the US EPA's failure to include a properly conducted economic analysis associated with the application of these criteria into standards governing the regulation of urban area and highway stormwater runoff-associated constituents. The application of these criteria to this situation will result in significant unnecessary expenditures for chemical constituent control in an effort to try to achieve the criteria values when implemented as standards for receiving waters for urban area and highway stormwater runoff.

Response to: CTR-061-002

See response to CTR-013-003.

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Comment ID: CTR-061-003

Comment Author: G. Fred Lee & Associates

Document Type: Academia

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References:

Attachments? Y

**CROSS REFERENCES**

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Comment: Overall Comments The California Toxics Rule (CTR), as proposed, is significantly deficient in providing an economic analysis that includes information on the cost, and an assessment of the water quality benefits, of ultimately having to meet state water quality standards based on CTR proposed criteria in the receiving waters for urban area and highway stormwater runoff. Without this information, the public, regulatory agencies and the regulated community cannot understand the significant technical deficiencies that exist in the US EPA CTR proposed rulemaking. The CTR should not be finalized until this information has been developed and provided to the public for review and comment. Urban stormwater discharge representative-speaker after speaker at the September 17, 1997 hearing on the proposed CTR was justifiably concerned about the confusing situation that exists today; they are being informed by the US EPA that NPDES-permitted urban stormwater runoff will be subject to meeting water quality standards (objectives) in the receiving waters for the stormwater runoff during the time of runoff and after through a process of ever-increasingly stringent and expensive BMPS.

As I testified at the September 17, 1997 hearing, it is well-understood in the stormwater runoff water quality management field that the US EPA "Gold Book" water quality criteria, including those being promulgated under the California Toxics Rule, are not designed to address short-term, episodic discharges of chemical constituents of the type that routinely occur in stormwater runoff from urban areas and highways. As a result, "administrative" exceedances of the proposed California Toxics Rule criteria can readily occur without any real impairment of the designated beneficial uses of the receiving waters for the stormwater runoff. By real impairment of aquatic life-related beneficial uses I mean alteration of the number, types and/or characteristics of desirable forms of aquatic life in the receiving waters for the runoff, that are of concern to the public who must ultimately pay for the control of chemical constituents in the stormwater runoff.

There has been a sufficient number of studies conducted on the characteristics of urban and highway

stormwater runoff to document that it will indeed be rare that the constituents present in urban stormwater runoff from residential and commercial areas are in toxic, available forms for a sufficient duration and magnitude in the receiving waters for the runoff to be adverse to aquatic life. As long as the US EPA persists with its improperly developed and adopted Independent Applicability Policy (by which chemical criteria/standards have to be met even if appropriately conducted studies show that the constituents of concern, such as heavy metals in urban stormwater runoff, are in non-toxic, unavailable forms) urban stormwater runoff water quality managers face ultimately having to spend large amounts of public funds to avoid "administrative" exceedances of inappropriate criteria/standards for urban stormwater runoff, with no expected improvement in the real beneficial uses of the waterbodies that are of concern to the public who must ultimately pay for the control programs.

Problems with "administrative" exceedances arise from what are well-known to be technically invalid and inappropriate approaches adopted by the US EPA in the 1980s for implementing the "Gold Book" criteria, that the Agency under various administrations has yet to address. These issues are discussed in the attached papers and in references provided therein. Even today, based on discussions at the US EPA's Multi-Regional Water Quality Criteria and Standards meeting that was held at the end of August 1997 in St. Louis, Missouri, the Agency is still unwilling to address in a meaningful way the problems in regulating urban stormwater runoff water quality. For the Agency to announce, as it did at that meeting, that wet-weather water quality management issues are no longer part of the ANPRM for water quality standards, represents a serious deficiency in the Agency's current policy that must be corrected if the public is to be protected from wasting large amounts of funds constructing structural BMPs to work toward achieving CTR-based water quality standards in the receiving/discharge waters for urban stormwater runoff.

As was pointed out by several speakers at the CTR hearing held on September 17, 1997, the US EPA Region 9 and US EPA headquarters made a significant error in developing the California Toxics Rule where those responsible chose to ignore the massive costs that regulated urban stormwater dischargers will ultimately have to bear as part of implementing the California Toxics Rule. I believe that if this matter were taken to the courts, the urban dischargers could force US EPA Region 9/Washington, D.C. to do a proper economic analysis of the cost of ultimately having to achieve water quality standards (objectives) based on CTR criteria. The fact that there is some ill-defined period of time during which the standards/criteria can be met through BMPS does not change the ultimate cost that will have to be borne by the public. It is my assessment that these costs will be on the order of at least \$1 to \$2 per person per day forever for the regulated communities.

Several of the urban stormwater dischargers who testified at the September 17, 1997 hearing reported that their preliminary cost estimates were even greater than those that I projected since not only would they have to construct and operate large treatment works to capture, store and treat urban stormwater runoff so that no more than one exceedance of a criterion/standard occurs every three years, but also they would have to acquire land near waterbodies where such treatment works could be developed. Representatives of Alameda County estimated that more than 50 facilities each the size of the Oakland Coliseum would have to be constructed to store the stormwater runoff from a two-inch, one-day storm. The construction of such facilities in near shore areas of Alameda County on San Francisco Bay might be justified if there were reason to believe that they would solve real, significant water quality use-impairments of San Francisco Bay occurring due to urban stormwater runoff-derived constituents that exceed proposed CTR criteria for protection of aquatic life. However, the fact is that after extensive study, none of the heavy metals in Bay Area urban stormwater discharges has been found to be in toxic, available forms that are causing real water quality use-impairments. Basically, the expenditures of dollars per person per day for the regulated community-dwellers that are now dictated by the Clean Water Act and the US EPA's Independent Applicability Policy arise from the US EPA's failing to address

the obvious, significant problems with the application of the "Gold Book" and now proposed CTR criteria to urban stormwater runoff-associated constituents.

I have found that the urban stormwater runoff water quality managers are not claiming that there are no water quality problems associated with their stormwater discharges. It appears that there may be real water quality problems in urban stormwater discharges due to chemicals such as the organophosphate pesticides (e.g., diazinon and chlorpyrifos) for which the US EPA has either failed to develop a criterion (diazinon) or has failed to implement an existing criterion (chlorpyrifos). I understand that finally, after years of delay during which it has been well-known by the US EPA that diazinon was causing widespread aquatic life toxicity, the Agency is now beginning again to formulate a water quality criterion for this chemical. Additional summary information on the organophosphate pesticide issue is presented in the attached paper, "Diazinon and Chlorpyrifos as Urban Stormwater Runoff Associated Pollutants," June (1997)

It is important to understand that the development of criteria for chemicals such as diazinon does not mean that those criteria will be properly implemented or enforced. The chlorpyrifos situation is an example; chlorpyrifos has been well-known to cause aquatic life toxicity in many communities' stormwater runoff, yet the Agency, including US EPA Region 9, has failed to admit publicly that there is a problem, much less act to control the toxicity problem. Under the current regulatory approach, stormwater dischargers could be required under CTR to spend massive amounts of public funds building "50 Oakland Coliseums" just to store stormwater runoff in Alameda County from a storm magnitude that occurs more frequently than once in three years because of administrative Exceedances of several CTR-regulated heavy metals in the stormwater runoff (which have been repeatedly found to be in non-toxic, unavailable forms, including the dissolved forms), while the treated stormwater discharge to San Francisco Bay could be highly toxic due to unregulated or inadequately regulated organophosphate pesticides. This is an artifact of the inappropriate approaches used by the Agency of focusing on chemicals rather than chemical impacts, i.e., on potential toxicants rather than toxicity. While this approach is bureaucratically simple to administer, it is technically invalid and can lead to a massive waste of public funds in implementing stormwater runoff water quality management programs.

Urban stormwater runoff water quality management is in chaos. This situation has been well-understood for at least five years. While attempts are being made to address these issues through the US EPA headquarters' various wet-weather committees, thus far the fundamental issue that was raised at the September 17, 1997 hearing by urban stormwater discharger after discharger, i.e., ultimately having to achieve water quality standards based on CTR criteria in the receiving waters for the discharge through ever-increasingly stringent BMPS, has not been adequately addressed. While the proposed CTR does not specify a time period over which the BMP ratcheting-down process will occur, there can be no doubt that time period will be set by the courts through litigation brought by environmental groups who will assert that an NPDES-permitted stormwater discharger is not making adequate progress toward achieving the ultimate goal of only one violation of a water quality standard every three years for regulated constituents. Because of the uncertainty of how the courts will handle this matter, stormwater dischargers could be faced with having to achieve water quality standards in the discharge waters within five to ten years. Clearly there is need now to understand the costs and true water quality benefits associated with achieving these standards as part of adopting the CTR as it is applied to regulating urban stormwater runoff water quality.

I have published extensively on these issues. Many of my papers and reports on this topic are available from my web site (<http://members.aol.com/gfredlee/gfl.htm>).

It is my recommendation that US EPA Region 9 and US EPA headquarters postpone any adoption of

the California Toxics Rule until the US EPA properly presents and discusses the potential costs and the potential water quality benefits in terms of real improvements in designated beneficial uses of receiving waters that will likely accrue as the result of regulated urban stormwater discharges' ultimately having to comply with water quality standards based on CTR criteria. The US EPA Region 9 should allow the stormwater dischargers the opportunity to provide information on the costs and benefits arising from applying these criteria to stormwater discharges as required by the Clean Water Act when it becomes clear that BMPS of the type that are readily available today will not eliminate the administrative Exceedances of water quality standards numerically equal to the aquatic life criteria set forth in the CTR. After allowing the urban stormwater dischargers to provide this information, the US EPA then should develop an economic analysis that reliably presents and discusses these issues. This CTR review process is the necessary first step to correcting the significant chaos that now exists in the urban stormwater runoff water quality management field.

Response to: CTR-061-003

See response to CTR-013-003 and CTR-040-004.

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Comment ID: CTR-061-017  
Comment Author: G. Fred Lee & Associates  
Document Type: Academia  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: J Storm Water Economics  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: Page 42186, third column, last paragraph and page 42187, first column, first paragraph discuss the application to wet-weather loads. The proposed US EPA criteria will tend to significantly over-regulate wet-weather flows such as urban area and highway stormwater runoff. It is estimated that these costs are on the order of \$1 to \$2 per person per day. This issue is discussed in the attached papers and in other papers on my web site.

Response to: CTR-061-017

See response to CTR-013-003.

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Comment ID: CTR-061-019  
Comment Author: G. Fred Lee & Associates  
Document Type: Academia  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: J Storm Water Economics  
References:  
Attachments? Y

## CROSS REFERENCES

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Comment: Comments on Economic Analysis of the Proposed Water Quality Toxics Rule

Page ES-2, second paragraph, "Scope of Economic Analysis," states, "In addition, EPA does not calculate costs for NPDES sources which are not typically subject to American WQBEL's including sources required to hold NPDES permits stormwater permit and other wet weather dischargers."

This is a significant deficiency in the cost analysis which makes the CTR largely unreliable. As long as NPDES stormwater dischargers are required to work toward the goal of achieving water quality standards in the receiving waters for stormwater runoff, the cost of achieving these standards must be included in evaluating the potential economic impacts of adopting these criteria. While most NPDES wastewater discharges meet or are close to meeting these criteria at the edge of a mixing zone for the discharge, NPDES-permitted stormwater dischargers in Phase I as well as the soon-to-be-released Phase 2 are not yet even beginning to effectively comply with the requirement of meeting water quality standards in the stormwater runoff during wet-weather runoff events. While it is unknown at this time what the situation will actually be in the future with respect to compliance with water quality standards for NPDES-regulated urban and highway stormwater runoff, until there is a clear, unequivocal policy adopted that exempts urban area and highway stormwater runoff from meeting these criteria, the costs of meeting such standards must be included in a proper evaluation of the cost of implementing these criteria.

Response to: CTR-061-019

See response to CTR-013-003.

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Comment ID: CTR-062-003

Comment Author: City of Downey

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-062 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

3. The economic analysis used by the U.S. EPA is flawed and inadequately addresses the impacts of the CTR on the stormwater-regulated community. The U.S. EPA's economic analysis focused entirely on the compliance cost of point sources, which included Public Owned Treatment Works (POTWs), industrial treatment facilities, and industrial users discharging to POTWs. A major omission in the U.S. EPA analysis is the cost for the stormwater program to comply with the proposed criteria.

In its analysis, the U.S. EPA appears to assume that a BMP program will lead to compliance and that there is no associated cost for a BMP program (over and above what an MS4 has in place already).

Studies conducted by the County of Sacramento and Fresno Metropolitan Flood Control District shows this to be incorrect, i.e., a BMP program cannot comply with the proposed criteria. Furthermore, these studies show that the cost for a BMP-program is significant and would increase substantially if an MS4 was required to construct end-of-pipe treatment for compliance. The U.S. EPA should not implement the proposed criteria to MS4 discharges until such time as an adequate economic analysis addressing the true impacts to MS4 dischargers in conducted and assessed.

Response to: CTR-062-003

See response to CTR-013-003.

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Comment ID: CTR-062-004a

Comment Author: City of Downey

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-062 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES R

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

4. The proposed rule applies to all current and future MS4 discharges, including small communities. The small communities will be significantly impacted by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires the U.S. EPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the U.S. EPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule, it indicates that there are no small entities to be impacted by the rule, and, therefore, the U.S. EPA did not need to complete an analysis required under the Act. The U.S. EPA neglected to address small MS4 communities in California that are currently subject to MS4 permits, and those smaller communities that may be impacted through Phase II. The U.S. EPA should have conducted an analysis on the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the U.S. EPA has complied with the requirements of the Regulatory Flexibility Act.

Response to: CTR-062-004a

See response to CTR-013-008b.

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Comment ID: CTR-071-003

Comment Author: City of Rosemead

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-071 incorporates by reference letter CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program.

3. The economic analysis used by the USEPA is flawed and inadequately addresses the impacts of the CTR on the stormwater-regulated community. The USEPA's economic analysis focused entirely on the compliance cost of point sources, which included Public Owned Treatment Works (POTWs), industrial treatment facilities, and industrial users discharging to POTWS. A major omission in the USEPA analysis is the cost for the stormwater program to comply with the proposed criteria.

In its analysis, the USEPA appears to assume that a BMP program will lead to compliance and that there is no associated cost for a BMP Program (over and above what an MS4 has in place already). Studies conducted by the County of Sacramento and Fresno Metropolitan, Flood Control District shows this to be incorrect, i.e., a BMP program cannot comply with the proposed criteria. Furthermore, these studies show that the cost for a BMP program is significant and would increase substantially if an MS4 was required to construct end-of-pipe treatment for compliance. The USEPA should not implement the proposed criteria to MS4 discharges until such time as an adequate economic analysis addressing the true impacts to MS4 dischargers is conducted and assessed.

Response to: CTR-071-003

See also response to CTR-013-003.

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Comment ID: CTR-071-004a

Comment Author: City of Rosemead

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-071 incorporates by reference letter CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES R

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program.

4. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issue as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for small communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule it indicates that there are no small entities to be impacted by the rule, and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis of the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

Response to: CTR-071-004a

See response to CTR-013-008b.

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Comment ID: CTR-072-003

Comment Author: City of Bell Gardens

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-072 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

**CROSS REFERENCES**

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program.

3. The economic analysis used by the USEPA is flawed and inadequately addresses the impacts of the CTR on the stormwater-regulated community. The USEPA's economic analysis focused entirely on the compliance cost of point sources, which included Public Owned Treatment Works (POTWs), industrial

treatment facilities, and industrial users discharging to POTWS. A major omission in the USEPA analysis is the cost for the stormwater program to comply with the proposed criteria.

In its analysis, the USEPA appears to assume that a BMP program will lead to compliance and that there is no associated cost for a BMP Program (over and above what an MS4 has in place already). Studies conducted by the County of Sacramento and Fresno Metropolitan Flood Control District shows this to be incorrect, i.e., a BMP program cannot comply with the proposed criteria. Furthermore, these studies show that the cost for a BMP program is significant and would increase substantially if an MS4 was required to construct end-of-pipe treatment for compliance. The USEPA should not implement the proposed criteria to MS4 discharges until such time as an adequate economic analysis addressing the true impacts to MS4 dischargers is conducted and assessed.

Response to: CTR-072-003

See response to CTR-013-003.

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Comment ID: CTR-072-004a

Comment Author: City of Bell Gardens

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-072 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES R

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program.

4. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits, Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issue as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for small communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule it indicates that there are no small entities to be impacted by the rule, and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis of the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

Response to: CTR-072-004a

See response to CTR-013-008b.

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Comment ID: CTR-073-003

Comment Author: City of Paramount

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-073 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program.

3. The economic analysis used by the USEPA is flawed and inadequately addresses the impacts of the CTR on the stormwater-regulated community. The USEPA's economic analysis focused entirely on the compliance cost of point sources, which included Public Owned Treatment Works (POTWs), industrial treatment facilities, and industrial users discharging to POTWS. A major omission in the USEPA analysis is the cost for the stormwater program to comply with the proposed criteria.

In its analysis, the USEPA appears to assume that a BMP program will lead to compliance and that there is no associated cost for a BMP Program (over and above what an MS4 has in place already). Studies conducted by the County of Sacramento and Fresno Metropolitan Flood Control District shows this to be incorrect, i.e., a BMP program cannot comply with the proposed criteria. Furthermore, these studies show that the cost for a BMP program is significant and would increase substantially if an MS4 was required to construct end-of-pipe treatment for compliance. The USEPA should not implement the proposed criteria to MS4 discharges until such time as an adequate economic analysis addressing the true impacts to MS4 dischargers is conducted and assessed.

Response to: CTR-073-003

See response to CTR-013-003.

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Comment ID: CTR-073-004a

Comment Author: City of Paramount

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-073 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES R

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program.

4. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly impacted by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issue as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for small communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule it indicates that there are no small entities to be impacted by the rule, and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permit, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis of the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

Response to: CTR-073-004a

See response to CTR-013-008b.

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Comment ID: CTR-074-003

Comment Author: City of San Gabriel

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-074 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

3. The economic analysis used by the USEPA is flawed and inadequately addresses the impacts of the CTR on the stormwater-regulated community. The USEPA's economic analysis focused entirely on the compliance cost of point sources, which included Public Owned Treatment Works (POTWs), industrial treatment facilities, and industrial users discharging to POTWS. A major omission in the USEPA analysis is the cost for the stormwater program to comply with the proposed criteria.

In its analysis, the USEPA appears to assume that a BMP program will lead to compliance and that there is no associated cost for a BMP Program (over and above what an MS4 has in place already). Studies conducted by the County of Sacramento and Fresno Metropolitan Flood Control District shows this to be incorrect, i.e., a BMP program cannot comply with the proposed criteria. Furthermore, these studies show that the cost for a BMP program is significant and would increase substantially if an MS4 was required to construct end-of-pipe treatment for compliance. The USEPA should not implement the proposed criteria to MS4 discharges until such time as an adequate economic analysis addressing the true impacts to MS4 dischargers is conducted and assessed.

Response to: CTR-074-003

See response to CTR-013-003.

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Comment ID: CTR-074-004a

Comment Author: City of San Gabriel

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-074 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES R

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

4. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the

proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule, it indicated that there are no small entities to be impacted by the rule, and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis on the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

Response to: CTR-074-004a

See response to CTR-013-008b.

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Comment ID: CTR-075-003

Comment Author: City of El Monte

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-075 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program;

3. The economic analysis used by The USEPA is flawed and inadequately addresses the impacts of the CTR on the stormwater-related community. The USEPA's economic analysis focused entirely on the compliance cost of point sources, which included Public Owned Treatment Works(POTWs), industrial treatment facilities, and industrial users discharging to POTWS. A major omission in the USEPA analysis is the cost for the stormwater program to comply with the proposed criteria.

In its analysis, the USEPA appears to assume that a BMP program will lead to compliance and that there is no associated cost for a BMP Program (over and above what an MS4 has in place already). Studies conducted by the County of Sacramento and Fresno Metropolitan Flood Control district shows this to be incorrect, i.e., a BMP program cannot comply with the proposed criteria. Furthermore, these studies show that the cost for a BMP program is significant and would increase substantially if an MS4 was required to construct end-of-pipe treatment for compliance. The USEPA should not implement the proposed criteria to MS4 discharges until such time as an adequate economic analysis addressing the true impacts to M84 dischargers is conducted and assessed.

Response to: CTR-075-003

See response to CTR-013-003.

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Comment ID: CTR-075-004a  
Comment Author: City of El Monte  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: J Storm Water Economics  
References: Letter CTR-075 incorporates by reference letters CTR-013 and CTR-027  
Attachments? N  
CROSS REFERENCES R

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program;

4. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly affected by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule:, it indicates that there are no small entities to be impacted by the rule, and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis on the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

Response to: CTR-075-004a

See response to CTR-013-008b.

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Comment ID: CTR-076-003  
Comment Author: City of Cudahy  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-076 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

**CROSS REFERENCES**

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

3. The economic analysis used by The USEPA is flawed and inadequately addresses the impacts of the CTR on the stormwater-regulated community. The USEPA's economic analysis focused entirely on the compliance cost of point sources, which included Public Owned Treatment Works (POTWs), industrial treatment facilities, and industrial users discharging to POTWs. A major omission in the USEPA analysis is the cost for the stormwater program to comply with the proposed criteria.

In its analysis, the USEPA appears to assume that a BMP program will lead to compliance and that there is no associated cost for a BMP Program (over and above what an MS4 has in place already). Studies conducted by the County of Sacramento and Fresno Metropolitan Flood Control district shows this to be incorrect, i.e., a BMP program cannot comply with the proposed criteria. Furthermore, these studies show that the cost for a BMP program is significant and would increase substantially if an MS4 was required to construct end-of-pipe treatment for compliance. The USEPA should not implement the proposed criteria to MS4 discharges until such time as an adequate economic analysis addressing the true impacts to MS4 dischargers is conducted and assessed.

Response to: CTR-076-003

See response to CTR-013-003.

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Comment ID: CTR-076-004a

Comment Author: City of Cudahy

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-076 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

**CROSS REFERENCES R**

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

4. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharge from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small

communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule, it indicates that there are no small entities to be impacted by the rule, and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis on the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

Response to: CTR-076-004a

See response to CTR-013-008b.

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Comment ID: CTR-078-003

Comment Author: City of Maywood

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-078 incorporates by reference letter CTR-013

Attachments? N

**CROSS REFERENCES**

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

3. The economic analysis used by The USEPA is flawed and inadequately addresses the impacts of the CTR on the stormwater-regulated community. The USEPA's economic analysis focused entirely on the compliance cost of point sources, which included Public Owned Treatment Works (POTWs), industrial treatment facilities, and industrial users discharging to POTWs. A major omission in USEPA analysis is the cost for the stormwater program to comply with the proposed

In its analysis, the USEPA appears to assume that a BMP program will lead to compliance and that there is no associated cost for a BMP Program (over and above what an MS4 has in place already). Studies conducted by the County of Sacramento and Fresno Metropolitan Flood Control district shows this to be incorrect, i.e., a BMP program cannot comply with the proposed criteria. Furthermore, these studies show that the cost for a BMP program is significant and would increase substantially if an MS4 was required to construct end-of-pipe treatment for compliance. The USEPA should not implement the proposed criteria to MS4 discharges until such time as an adequate economic analysis addressing the true impacts to MS4 dischargers is conducted and assessed.

Response to: CTR-078-003

See response to CTR-013-003.

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Comment ID: CTR-078-004a

Comment Author: City of Maywood

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-078 incorporates by reference letter CTR-013

Attachments? N

CROSS REFERENCES R

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

4. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule, it indicates that there are no small entities to be impacted by the rule, and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis on the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

Response to: CTR-078-004a

See response to CTR-013-008b.

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Comment ID: CTR-079-003

Comment Author: City of Glendale

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-079 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

**CROSS REFERENCES**

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

3. The economic analysis used by the USEPA is flawed and inadequately addresses the impacts of the CTR on the stormwater regulated community. The USEPA's economic analysis focused entirely on the compliance cost of point sources, which included Public Owned Treatment Works (POTWs), industrial treatment facilities, and industrial users discharging to POTWs. A major omission in the USEPA analysis is the cost for the stormwater program to comply with the proposed criteria.

In its analysis the USEPA appears to assume that a BMP program will lead to compliance and that there is no associated cost for a BMP Program over and above what an MS4 has in place already). Studies conducted by the County of Sacramento and Fresno Metropolitan Flood Control district shows this to be incorrect, i.e., a BMP program cannot comply with the proposed criteria. Furthermore, these studies show that the cost for a BMP program is significant and would increase substantially if an MS4 was required to construct end-of-pipe treatment for compliance. The USEPA should not implement the proposed criteria to MS4 discharges until such time as an adequate economic analysis addressing the true impacts to MS4 dischargers is conducted and assessed.

Response to: CTR-079-003

See response to CTR-013-003.

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Comment ID: CTR-079-004a

Comment Author: City of Glendale

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-079 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

**CROSS REFERENCES R**

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

4. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in

California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule, it indicates that there are no small entities to be impacted by the rule, and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis on the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

Response to: CTR-079-004a

See response to CTR-013-008b.

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Comment ID: CTR-080-001

Comment Author: City of Los Angeles

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J Storm Water Economics

References: Letter CTR-080 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES

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Comment: The City of Los Angeles is hereby transmitting its comments regarding the proposed California Toxics Rule (CTR). I would like to begin by stating that the City currently spends an average of \$28 million annually on its Stormwater Management Program. The majority of Program activities are guided by the Los Angeles County Municipal Stormwater Permit, which dictates the use of Best Management Practices to control pollutants to the maximum extent practicable. We are primarily concerned with how the CTR may impact the Stormwater Management Program.

\* The City recommends that a parallel economic analysis be conducted to address the impacts of the CTR on the stormwater-regulated community.

Response to: CTR-080-001

See response to CTR-013-003.

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Comment ID: CTRE-002-003  
Comment Author: G. Fred Lee & Associates  
Document Type: Academia  
State of Origin: CA  
Represented Org:  
Document Date: 09/18/97  
Subject Matter Code: J Storm Water Economics  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: As was pointed out by several speakers at the hearing yesterday, US EPA Region 9 and US EPA headquarters made a significant error in developing the California Toxics Rule where they chose to ignore the massive costs that regulated urban stormwater dischargers will ultimately have to bear as part of implementing the California Toxics Rule. From my perspective, and I do not speak for any discharger, I believe that if this matter were taken to the courts, the urban dischargers could force US EPA Region 9/Washington, D.C. to do a proper economic analysis of the cost of ultimately having to achieve water quality standards (objectives) based on CTR criteria. The fact that there is some ill-defined period of time during which the standards/criteria can be met through BMPs does not change the ultimate cost that will have to become by the public. It is my assessment that these costs will be on the order of at least \$1 to \$2 per person per day forever for the regulated communities.

Several of the urban stormwater dischargers who testified at yesterday's hearing reported that their preliminary cost estimates were even greater than those that I projected since not only would they have to construct and operate large treatment works to capture, store and treat urban stormwater runoff so that no more than one exceedance of a criterion/standard occurs every three years, but also they would have to acquire land near waterbodies where such treatment works could be developed. As you heard, Alameda County estimated that over 50 facilities the size of the Oakland Coliseum would have to be constructed to store the stormwater runoff from a two-inch, one-day storm. While the construction of such facilities in near shore areas of Alameda County on San Francisco Bay might be justified if there was reason to believe that they would solve real, significant water quality use impairments of San Francisco Bay that are occurring due to urban stormwater runoff-derived constituents that exceed proposed CTR criteria for protection of aquatic life, the facts are that after extensive study, none of the heavy metals in Bay Area urban stormwater discharges had been found to be in toxic, available form. Basically, the expenditures of dollars per -person per day for the regulated community dwellers that are now dictated by the Clean Water Act and the US EPA's Independent Applicability Policy arise from the US EPA failing to address the obvious, significant problems with the application of the "Gold Book" and now proposed CTR criteria to urban stormwater runoff-associated constituents.

Response to: CTRE-002-003

EPA did not include benefits or costs of controlling nonpoint sources or storm water dischargers in its estimates of benefits and costs of the CTR. EPA believes that the final rule will not have a direct effect on sources not permitted under the NPDES program (e.g., nonpoint sources) or NPDES sources not typically subject to numeric water quality-based effluent limits (e.g., wet weather discharges). Any potential indirect effect on nonpoint sources and wet weather discharges, such as runoff from farms, urban areas, and abandoned mines, and contaminated sediment, is unknown at this time. Many of the programs developed to control nonpoint sources and wet weather discharges are already in place. Costs

due to these programs have already been incurred or will soon be incurred owing to existing federal, State, and local environmental programs.

EPA also acknowledges that nonpoint sources and wet weather discharges are technically difficult to model and evaluate costs because they are intermittent and highly variable. Nonpoint source and wet weather discharges also occur under different hydrologic or climatic conditions than continuous discharges from industrial and municipal facilities, which are evaluated under critical low flow or drought conditions. Thus, evaluating agricultural nonpoint source discharges and storm water discharges and their effects on the environment is highly site-specific and data intensive.

See also response to CTR-040-004.

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Comment ID: CTRH-001-001b  
Comment Author: Robert Hale  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: CA Stormwater Task Force  
Document Date: 09/17/97  
Subject Matter Code: J Storm Water Economics  
References:  
Attachments? N  
CROSS REFERENCES I-1

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Comment: MR. HALE: Good afternoon. My name is Robert Hale and I'm the chairman of the California Stormwater Quality Task Force which is located at 951 Turner Court, Suite 300, in Hayward.

This task force is a statewide organization representing municipal separate storm sewer systems that hold National Pollutant Discharge Elimination System, NPDES, permits to discharge stormwater.

My comments today are on behalf of the -- principally on behalf of that task force. I also am chairman of the management committee of the Alameda Countywide Clean Water Program. I will make some comments with respect to Alameda County.

As proposed by EPA, the preamble language, which is the principal point here in referring to numeric effluent limitations and water quality based effluent limitations, is clearly inconsistent with the plain language used by Congress in incorporating the maximum extent practicable standard into Section 402(p)(3)(B) of the Clean Water Act.

You may argue that this reference is only in the preamble and not in the main text of the rule; but it's my understanding, however, that the preamble itself is supposed to explain and clarify the meaning of the rule and the Clean Water Act. This proposed language would instead appear to be trying to change one of the fundamental points of the Clean Water Act.

The reason I think this point is fundamental is that the cost to society, and to our county in this case and to the states, is an important consideration. Congress considers the entirety of the tasks that the country has to do, rather than going for broke on one issue such as stormwater quality.

In short, the Congress balances the larger picture, and the language in Section 402(p)(3)(B) actually

reflects that balance. I believe that Section 402(p) says what it says for a good reason. The only economically feasible means of achieving water quality standards is through best management practices.

To illustrate this point, I work in Alameda County as chairman of the Clean Water Program there, and I did some rough calculations here. We often get storms as much as 2 inches in a 24-hour period. That's several times a winter. If you had a one-day storm, as I figure it, that will work out to 5 billion gallons of runoff water.

To treat this much water, if we were driven to this sort of the extreme case by the language in the preamble -- and I'm not talking about the text of the rule so much as the language in that preamble -- if it were to drive us in this extreme case to have -- to do end-of-pipe treatment for our discharges in order to meet the standards that are there, and to keep up -- basically keep up with the storms, which often come one behind the other within a couple days, it would necessitate building dozens, perhaps more, treatment plants of substantial size and would necessitate the use or acquisition of valuable industrial properties on the margins of the bay. Which I just did a little separate figuring here; I'm figuring it costs about \$3 a gallon to treat -- to secondarily treat sanitary sewage and about \$4 a gallon to store it.

I estimate that a storm of this size -- to be able to handle a storm of this size would cost between 35 and \$50 billion for Alameda County alone. This is for a population of 1.35 million residents.

And this does not account for the acquisition of property needed to do this, assuming we could store it in facilities or properties we already own. And it also does not account for the secondary treatment. In fact, we might have some difficulty achieving the standards that are in the rule.

And there's a way you can express this getting down to the nuts and bolts of it, which I like to do. I did some rough estimates of the size of the Oakland Coliseum, and if you were to use structures the size of the Oakland Coliseum for storing this water from one of these storms, I figured it would come out to -- you'd need 50 of them to store the runoff from this one storm that I've got here.

And I know some of you might be thinking about how the A's are doing right now and this might not be a bad idea. We can, say, think about leaving an extra one there for the A's and Raiders and build 50 more of them.

But the point is, we're talking about a tremendous investment in the infrastructure here, and it's very difficult for us to keep up with.

So let's see. Just a few more points here.

So we're not really talking about upgrades to existing delivery and treatment systems. We would have to start from scratch and build pumping systems, conveyance systems, to build an entire infrastructure. The cost would be prohibitive for us in Alameda County. This is a -- sort of one of the worst-case scenarios. And I think that the economic rule -- or the economic analysis in the rule doesn't do this justice.

So --

MR. MORRIS: Have you done any modelling?

MR. HALE: This is strictly back-of-the-envelope type calculations at this point. I don't know whether or not -- what discharges the storm concentrations would result in.

The first question I have on modeling is to see what these discharges of stormwater with these effluent concentrations -- under the storm conditions if we would be -- would have a higher flow than the drought flow condition which was modeled.

When you have a storm event, the stream conditions are different, the hydrology is different, the modeling characteristics. We could work out the scenario. And it's true that when you've got a huge storm, water fires right out the bay and out the Golden Gate. We might even probably need to talk about that and work on that.

Response to: CTRH-001-001b

EPA disagrees with the comments. See response to CTR-001-003. For a discussion of EPA's evaluation of studies concerning costs associated with achieving water quality criteria for storm water discharges, see responses to Comments CTR-013-003 and CTR-040-004. For a discussion of the scientific validity of CTR criteria, See response to CTR-031-004c.

EPA disagrees with the cost estimates provided by the commenter as EPA does not believe that storage and treatment of stormwater would be required to ensure compliance with the CTR. See response to CTR-021-006b.

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Comment ID: CTRH-001-029  
Comment Author: Michelle Pla  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: S.F. Public Utilities Com  
Document Date: 09/17/97  
Subject Matter Code: J Storm Water Economics  
References:

Attachments? N

**CROSS REFERENCES**

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Comment: We're going to submit more responses in written comments having to do with other issues such as wet weather. I would really encourage you to listen carefully to those who have experience in building wet weather facilities.

We know it costs \$4 a gallon for storage. We know the latest cost of building treatment facilities is about \$3 a gallon, so those are real numbers. And so I think you do need to pay attention to the wet weather issue as well.

Response to: CTRH-001-029

See response to CTR-021-006b and CTR-001-007.

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Comment ID: CTRH-001-033  
Comment Author: Dave Brent  
Document Type: Public Hearing  
State of Origin: CA

Represented Org: CA Water Qual. Task Force  
Document Date: 09/17/97  
Subject Matter Code: J Storm Water Economics  
References:

Attachments? N

**CROSS REFERENCES**

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Comment: Second, we are concerned that the compliance cost for the stormwater programs to meet the objectives of the proposed rule will be significant. Already the city spends about \$1.2 million to implement a program that services 400,000 people.

Unfortunately, even with the proactive stormwater programs implemented in the State of California, BMP programs will probably fall short of the water quality standard for several of the constituents included in the rule. And in cases where objectives are achieved, it will take several years.

As my counterpart and co-permittee from Sacramento County, Kathy Russick will describe, the City of Sacramento has estimated cost for compliance based on five of the constituents in the CTR: copper -- dissolved copper, dissolved lead and dissolved zinc, pentachlorophenol and PAHs.

These costs -- this study indicates that the costs will be very extreme to even come close to meeting those objectives and the objectives -- and this is from six years of monitoring data and six years of a proactive BMP program, so we are basing this on fact. And again, Kathy will elaborate on this in her discussion.

And also the analysis -- economic analysis focuses only on POTW discharges, not industrial discharges. Again, with the costs we're seeing for stormwater compliance, we feel that the analysis falls short and that EPA should revisit the economic analysis and include not only the cost for municipal stormwater programs to comply, but also the cost for the industrial stormwater programs.

Response to: CTRH-001-033

The commenter claims that BMP programs will fall short of the water quality standards for several pollutants included in the CTR. EPA disagrees with the commenter and believes that BMP programs, when properly implemented, will be sufficient to ensure compliance with CTR-based standards.

See also the response to CTR-021-006b, CTR-001-007, and the preamble to the final rule.

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Comment ID: CTRH-001-054  
Comment Author: Michael Lozeau  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: S.F. Bay/Delta Keeper  
Document Date: 09/17/97  
Subject Matter Code: J Storm Water Economics  
References:

Attachments? N

**CROSS REFERENCES**

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Comment: In closing, in terms of some of the comments made by especially the municipal stormwater

programs, first, I'd like to just make a comment that economic analysis might be required by executive order, but it isn't required by the Clean Water Act; that standards, in fact, cannot include any kind of economic consideration in terms of coming up with a scientifically based number.

The Act mandates a scientifically based number. State level doesn't do that, but the federal level is quite clear. And you have no authority to include in your numbers an economic criteria. So I'll just remind you of that, to -- just to balance off the comments today with -- not exactly balance. At least one person said that.

And also in terms of the storm -- fears of the stormwater programs, they're quite fearful of the language in here. I would simply remind folks, 402(p) under the permits section doesn't rewrite 303D, formulate the TMDLs and load allocation requirements. It doesn't rewrite the need for permits to go beyond best available technology or whatever they need to do to meet the criteria- it doesn't rewrite 301.

So 402(p) takes a back seat effectively to a situation where you had a violation of standards in the ambient water. Those permits would by definition be subject to a particular regional board's discretion to revise them as proposed.

I don't think any realistic look at the future indicates that all the permits will be rewritten with numerical effluent limits, given the magnitude of that program. I would just put in my word of reason that there's really nothing to be afraid of. The South Bay has a stormwater program, and in Santa Clara County we have a stormwater program that looks like every other municipal stormwater program in the area.

And I think that's about it.

Response to: CTRH-001-054

EPA agrees with the commenter that criteria must be science-based and are established so as to ensure the protection of designated uses of California waters. EPA performed an Economic Analysis of the implementation of the rule to determine the potential economic impact of the CTR, not to establish standards or criteria. Also see response to CTR-042-007a.

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Comment ID: CTRH-002-005  
Comment Author: Chris Compton  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: County of Orange  
Document Date: 09/18/97  
Subject Matter Code: J Storm Water Economics  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: EPA also failed to address the impacts of the proposed rule on industrial stormwater discharges. This rule could significantly impact industries in a municipal area that is subject to stormwater permits.

Response to: CTRH-002-005

See response to CTR-021-006b and CTR-001-007.

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Comment ID: CTRH-002-006b  
Comment Author: Chris Compton  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: County of Orange  
Document Date: 09/18/97  
Subject Matter Code: J Storm Water Economics  
References:

Attachments? N

CROSS REFERENCES I

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Comment: Does the California Toxics Rule meet the legal requirements of the Clean Water Act and other federal policies and laws?

Previous municipal stormwater speakers have questioned, as we have, EPA's interpretation of Section 402(p) of the Clean Water Act. In addition, the California Toxics Rule raises significant questions regarding its conformance with other federal policies and laws including Executive Order 12866, the Unfunded Mandates Reform Act, the Regulatory Flexibility Act, and the authority for EPA to adopt blanket criteria without considering the designated uses of such waters as required under the Clean Water Act.

To give you just one example, I'd like to briefly compare the California Toxics Rule with the compliance of Executive Order 12866:

Under Executive Order 12866, any "significant" federal regulatory action must be referred to the Office of Management and Budget for review before it can be approved. In this context, a "significant" action includes one which will "have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy." Though admitting that there "may be a cost to some dischargers" to comply with the water quality standards that will be derived from these toxics criteria, the EPA nonetheless argues that the proposed rule is not a significant action because it "establishes ambient water quality criteria which, by themselves, do not directly impose economic impacts."

First, nothing in Executive Order 12866 indicates that only actions with direct economic impacts are to be considered by OMB. Second, for the EPA to ignore the link between the toxics criteria in the proposed rule and the obligations being imposed is very questionable. Is EPA conceding that State and regional water boards may simply ignore these criteria when promulgating water quality standards and issuing permits? Nothing in the preamble indicates that EPA views these criteria as merely advisory.

Despite stating that Executive order 12866 is not applicable, EPA goes on to include an economic analysis which purports to demonstrate that the proposed rule will result in a net economic benefit. The problem with this analysis is that it completely ignores the enormous cost that municipalities will bear if they are forced to bring their stormwater discharges into compliance with these toxics criteria. For example, a 1990 study conducted for the Sacramento Stormwater Program estimated that it would cost nearly \$2 billion to implement a treatment program to achieve the water quality criteria proposed in the former Inland Surface Water Plan. Costs to comply with the proposed toxics criteria would be similar, if

not higher, than those proposed in the Inland Surface Water Plan. Ultimately, the costs of compliance may reach into the ten of billions of dollars.

In short, EPA cannot have it both ways. It cannot state that stormwater discharges are subject to the proposed toxics rule and then turn a blind eye toward the costs associated with the implementation of this rule. The costs of the proposed rules are direct and significant, and therefore the rule must be submitted to OMB for review.

We have comparable concerns with the other federal laws that I cited previously, and we will elaborate on them in our written comments.

Response to: CTRH-002-006b

See response to CTRH-002-006a.

EPA established criteria in order to comply with the requirements of the Clean Water Act. In order for such criteria to achieve their intended purpose, the implementation scheme must be such that the final results protect aquatic life and human health. EPA disagrees that designated uses are not considered. It is through the implementation of the CTR that site-specific factors of water bodies and discharging facilities (e.g., hardness, pH, stream flows, or site-specific criteria studies) are considered and designated uses are protected.

EPA disagrees with the commenter that municipalities will bear "enormous" costs to bring their stormwater discharges into compliance with the CTR criteria, however, EPA was not able to evaluate the commenter's compliance cost estimate of "tens of billions of dollars" because the commenter did not provide a methodology or any data for EPA to evaluate. Also see response to CTR-021-006b, CTR-021-005c, and the preamble to the final rule.

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Comment ID: CTRH-002-009  
Comment Author: Chris Compton  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: County of Orange  
Document Date: 09/18/97  
Subject Matter Code: J Storm Water Economics

References:

Attachments? N

**CROSS REFERENCES**

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Comment: We recommend that EPA conduct an economic analysis to assess the full impacts of the wet weather discharge requirements of the proposed rule and further evaluate the actual benefits of implementation of the rule.

The County of Orange encourages EPA to work cooperatively with California municipal stormwater stakeholders to resolve these issues. Through the California Stormwater Quality Task Force, the municipal stormwater dischargers have demonstrated our ability to work cooperatively with the EPA and State Water Resources Control Board to develop mutually effective solutions to facilitate implementation of the stormwater program. Such intergovernmental coordination is needed to develop a feasible

program to protect the environment.

Response to: CTRH-002-009

See responses to CTR-021-006b and CTR-034-016.

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Comment ID: CTRH-002-017

Comment Author: Alex Sheydayi

Document Type: Public Hearing

State of Origin: CA

Represented Org: Ventura Co. Flood Control

Document Date: 09/18/97

Subject Matter Code: J Storm Water Economics

References:

Attachments? N

CROSS REFERENCES

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Comment: MR. SHEYDAYI: Good afternoon. I'm Alex Sheydayi of the Ventura County Flood Control District, and I'm here to speak on behalf of the Ventura County Management Program.

Before I make my comments, I would also like to express my -- our program's support for the comments that were made by Mr. Crompton earlier and also by our speakers in San Francisco that spoke on behalf of the Municipal Water Quality Management Programs statewide.

Our program -- The permit for our program was issued in August of '94. And our program basically consists of 12 permittees in the flood control district which is the municipality and the municipal permittee which is the County of Ventura and ten cities in the county.

At the time that we applied for the stormwater permit, only three municipalities in the county were required to do so. The others entered the program voluntarily in order to maintain a uniform program countywide. Currently, of the 12 corporate permittees, five corporate permittees would not even be required to have permits under Phase 20 because they have populations far west than that required for Phase 20. So you can see we have very small communities that are participating in the program voluntarily.

The commission earlier stated that one of the reasons many of the corporate permittees entered the program voluntarily is to maintain a uniform program countywide. And one of the incentives for doing that was the fact that the program was a BMP-driven program to comply with the requirements of a permit to the maximum extent practicable under the Clean Water Act.

We have also recently completed a four-year monitoring program and, using the information from the monitoring program, we have attainability of the data that we have collected for our program. This attainability data indicates that even if we comply -- apply the BMP program to the maximum extent possible, the expenditure of radial funds, we would still not be able to meet the requirements of the proposed criteria for several of the metals and other constituents, which would then -- of course, our program would go into a treatment mode for stormwater discharges. We believe that this was going to be very costly for us, particularly very costly for smaller communities who don't have the base to spread the cost of such an expense over their population.

Our programs, like so many other municipal programs in California, were based on implementation of programs to address source of weakness, not to provide the treatment. Just to give you an idea of why we concur with the other speakers concerning the economic analysis and the fallacy of the economic analysis, let me just give you a very quick example of the cost that we are currently incurring. We are currently spending \$5 per -- for every man, woman, and child in Ventura County to implement a BMP-based program. And yet if you'll look at the pages that were presented in the CTR of the maximum \$87 million statewide, the number will be approximately two and a half to three dollars for every person in California to implement the CTR — not just the stormwater dischargers, but for all dischargers statewide. So we think that there is something wrong with this whole analysis if we are currently exceeding the cost of the assumptions made in the analysis for compliance with CTR.

We also, as I said earlier, believe that the analysis should take into consideration the size of the communities, and as Mr. Crompton mentioned earlier, most of the municipal programs in California are very small communities and the cost of applying the treatment would be very, very difficult for them to comply with.

That's the end of my comment. I thank you for the opportunity to speak.

MR. MORRIS: Are you going to submit the data and the analyses that you did that show why -- You said you have a lot of data. Are they going to --

MR. SHEYDAYI: We are not going to submit them on the comments. We are going to be submitting that data -- It's still relatively in raw form, but we will be submitting that data to the regional board with our annual report in November.

MR. MORRIS: If you could get me or send me a copy or Diane a copy of the data and how you calculated your WQBEL, your permit limit based on the new criteria, that would be useful. I'd like to see how you did that.

MR. SHEYDAYI: Okay. We'll send you whatever we can put together.

MR. MORRIS: I think there is a misconception that people have to implement the criteria for stormwater dischargers at the drought low condition and the 7Q10 condition. That's not the case. When we issue a permit, you keep that limit for a stormwater discharge, you usually model the condition that occurs in. If you do it right, that gives you a model that gives you concentration in the receiving water and the duration of the exposure of that concentration, and then you'll compare that to the criterion and flood flow or rain flow or storm flow. Right? Usually you have enough to keep your WQBEL below the criteria and you don't see the effects. If you do a good model, you shouldn't have any impact.

If you look across the country, across the U.S., there are many, many states that have standards on the books, water quality standards that are far more stringent than the numbers we're promulgating or proposing to promulgate in Southern California. If you look at their standards, you won't see any black boxes on the end of those stormwater discharges. Nobody builds treatment for stormwater treatment in this country. They've been implementing standards for 15 years. California is no different.

Response to: CTRH-002-017

The costs attributable to the CTR are only those incremental costs which will be incurred to go from compliance with existing permits to compliance with more stringent CTR-based limits. EPA's revised

cost estimates from the Economic Analysis range from \$33.5 million to \$61.0 million annually. The commenter compares BMP costs of \$5 per person to potential CTR compliance costs, however, this is not relevant because CTR costs are incremental costs and are not based on the costs of existing programs. See also responses to CTR-021-006b and CTR-035-048.

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Subject Matter Code: J-01 MS4s/CSOs/Industries Costs

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Comment ID: CTR-013-002

Comment Author: County of Los Angeles

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J-01 MS4s/CSOs/Industries Costs

References: Letter CTR-013 incorporates by reference letter CTR-027

Attachments? N

#### CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following concerns which greatly impact the Lost Angeles County Stormwater Program:

2. The application of water quality standards to MS4 stormwater discharges would result in end-of-pipe treatment to reasonably achieve compliance and provide limited environmental benefit. Putting aside the issue of whether water quality standards apply to MS4s, the CTR as presently proposed will require stormwater agencies to incur significant costs with minimal improvement in water quality. Based on studies conducted by the County of Sacramento and the Fresno Metropolitan Flood Control District, stormwater discharges being controlled through an aggressive BMP-based program could not be certain of achieving the proposed water quality criteria. To achieve the criteria, end-of-pipe treatment would be necessary. It is reasonable to assume that other municipalities throughout California where special studies have not been conducted will not be able to meet the proposed criteria as well, thus requiring public agencies throughout California to collect and treat its stormwater discharges. This is unreasonable and is not consistent with the intent of the CWA for the following reasons:

The preamble to the Federal stormwater regulations(\*2) clearly indicates that it was not the intent of Congress to require municipal permits to require end-of-pipe treatment technology but to implement a comprehensive stormwater management program to reduce the discharge of pollutants from municipal storm sewer systems.

If municipal stormwater discharges are required to comply with the proposed rule, end-of-pipe treatment or zero discharge would be the only alternatives to achieve compliance. This would result in major capital expense to construct the collection and treatment facilities. In addition, this may result in other more significant environmental impacts, such as destruction of wetlands and wildlife habitats.

We recommend that the proposed rule not apply to MS4 discharges. However, if the USEPA should continue to impose the proposed rule to MS4s, the rule should be revised to specifically address compliance issues and resolution to those issues for MS4 discharges that adequately reflect the intent of Congress when it implemented the municipal stormwater program.

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\*2) Federal Register, November 16, 1990, Vol. 55, No. 222, Page 48038

Response to: CTR-013-002

See response to CTR-040-004.

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Comment ID: CTR-014-002

Comment Author: City of Lakewood

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J-01 MS4s/CSOs/Industries Costs

References: Letter CTR-014 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

#### **CROSS REFERENCES**

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Comment: 2. The application of water quality standards to MS4 stormwater discharges would result in end-of-pipe treatment to achieve compliance which would provide limited environmental benefit. Putting aside the issue of whether water quality standards apply to MS4s, the CTR as presently proposed will require stormwater agencies to incur significant cost with minimal improvement in water quality. Based on studies conducted by the County of Sacramento and the Fresno Metropolitan Flood Control District, stormwater discharges being controlled through an aggressive BMP-based program could not be certain of achieving the proposed water quality criteria. To achieve the criteria, end-of-pipe treatment would be necessary. It is reasonable to assume that other municipalities throughout California where special studies have not been conducted will not be able to meet the proposed criteria as well, requiring public agencies throughout California to collect and treat its stormwater discharges. This is unreasonable and is not consistent with the intent of the CWA.

Response to: CTR-014-002

See response to CTR-040-004.

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Comment ID: CTR-024-002

Comment Author: City of Hawthorne

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J-01 MS4s/CSOs/Industries Costs

References: Letter CTR-024 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

#### **CROSS REFERENCES**

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Comment: 2. The application of water quality standards to MS4 stormwater discharges would result in end-of-pipe treatment to reasonably achieve compliance and provide limited environmental benefit. Putting aside the issue of whether water quality standards apply to MS4s, the CTR as presently proposed will require stormwater agencies to incur significant cost with minimal improvement in water quality. Based on studies conducted by the County of Sacramento and Fresno Metropolitan Flood Control

District, stormwater discharges being controlled through aggressive BMP-based program could not be certain of achieving the proposed water quality criteria. To achieve the criteria, end-of-pipe treatment would be necessary. It is reasonable to assume that other municipalities throughout California where special studies have not been conducted will not be able to meet the proposed criteria as well, requiring public agencies throughout California to collect and treat its stormwater discharges. This is unreasonable and is not consistent with the intent of the CWA.

Response to: CTR-024-002

See response to CTR-040-004.

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Comment ID: CTR-027-002

Comment Author: California SWQTF

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J-01 MS4s/CSOs/Industries Costs

References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040

Attachments? N

CROSS REFERENCES

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Comment: 2. The application of water quality standards to MS4 stormwater discharges would result in end-of-pipe treatment to possibly achieve compliance which would only provide limited environmental benefit. Putting aside the issue of whether water quality standards apply to MS4s, the CTR as presently proposed will require stormwater agencies to incur significant costs with minimal improvement in water quality. Based on studies conducted by the County of Sacramento and the Fresno Metropolitan Flood Control District, stormwater discharges being controlled through an aggressive BMP based program could not be certain of achieving the proposed water quality criteria. To achieve the criteria, end-of pipe treatment would be necessary. Even then, certain criteria, e.g. PAHs, cannot be attained through typical treatment BMPs. In the case of Sacramento, a capital cost of \$2.5 billion was required to provide treatment. The annual cost, including operation and maintenance, for such an arrangement was \$444 million. It is reasonable to assume that other municipalities throughout California where special studies have not been conducted will not be able to meet the proposed criteria as well, requiring public agencies throughout California to collect and treat all stormwater discharges. This is unreasonable, and not consistent with intent of the CWA for the following reasons:

\* The preamble to the Federal stormwater regulations (\*1) clearly indicates that it was not the intent of Congress to require municipal permits to require end-of-pipe treatment technology, but to implement a comprehensive stormwater management program to reduce the discharge of pollutants from municipal storm sewer systems.

If municipal stormwater discharges are required to comply with the proposed rule, end-of-pipe treatment or zero discharge would be the only alternatives to achieve compliance. Extrapolating the Sacramento cost for end-of-pipe treatment to a population of \$22 million (\*2) results in an annual cost of \$7 billion. In addition to the significant compliance costs, there are other issues that could make such alternatives infeasible.

- Fully developed communities may not have the vacant land available to construct collection and treatment facilities. Acquisition of developed land would be very expensive.

- Going to zero discharge or constructing and operating collection and treatment facilities may result in other more significant environmental impacts, such as destruction of wetlands and wildlife habitats.

- Technologies to treat not only the quantity of stormwater but to reduce toxic pollutants to low concentrations are not currently available.

\* As noted in the economic analysis to the proposed rule, EPA estimates that only 3% of the total load of toxic pollutants to fresh waters of the State are from point source discharges, which include municipal stormwater discharges. Since point source discharges contribute a small percentage of the total toxic pollutant load, reducing the toxic pollutants in stormwater would result in only marginal water quality improvements in the waters the proposed criteria are intended to protect. The costs to implement a BMP based program alone to address toxic pollutants, without considering end-of-pipe treatment, are significant and not justified when compared to the marginal water quality benefits to be achieved.

Recommendation: The proposed rule should not apply to MS4 discharges. However, if USEPA should continue to impose the proposed rule to MS4s, the rule should be revised to specifically address and resolve these compliance issues, as they apply to MS4 discharges, in a manner consistent with the intent of Congress when it adopted the requirements of the municipal stormwater program.

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(\*1) Federal Register, November 16, 1990, Vol. 55, No. 222, page 48038.

(\*2) Based on 1990 census data.

Response to: CTR-027-002

See response to CTR-040-004.

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Comment ID: CTR-040-034  
Comment Author: County of Sacramento Water Div  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: J-01 MS4s/CSOs/Industries Costs  
References: Letter CTR-040 incorporates by reference letter CTR-027  
Attachments? Y  
CROSS REFERENCES

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that municipal stormwater dischargers can achieve the criteria with no-cost BMPs.

Response to: CTR-040-034

See response to CTR-013-003.

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Comment ID: CTR-041-030  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: J-01 MS4s/CSOs/Industries Costs  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that municipal stormwater dischargers can achieve the criteria with no-cost BMPs.

Response to: CTR-041-030

See response to CTR-013-003.

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Comment ID: CTR-044-025  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: J-01 MS4s/CSOs/Industries Costs  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that municipal stormwater dischargers can achieve the criteria with no-cost BMPs.

Response to: CTR-044-025

See response to CTR-013-003.

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Comment ID: CTR-054-029  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: J-01 MS4s/CSOs/Industries Costs  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Although EPA goes to great length to label its cost analysis as "conservative" the analysis is anything but conservative:

\* It is not conservative to assume that municipal stormwater dischargers can achieve the criteria with no-cost BMPs.

Response to: CTR-054-029

See response to CTR-013-003.

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Comment ID: CTR-062-002  
Comment Author: City of Downey  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: J-01 MS4s/CSOs/Industries Costs  
References: Letter CTR-062 incorporates by reference letters CTR-013 and CTR-027  
Attachments? N  
CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

2. The application of water quality standards to MS4 stormwater discharges would result in end-of-pipe treatment to reasonably achieve compliance and provide limited environmental benefit. Putting aside the issue of whether water quality standards apply to MS4s, the CTR as presently proposed will require stormwater agencies to incur significant cost with minimal improvement in water quality. Based on studies conducted by the County of Sacramento and the Fresno Metropolitan Flood Control District, stormwater discharges being controlled through an aggressive BMP-based program could not be certain of achieving the proposed water quality criteria. To achieve the criteria, end-of-pipe treatment would be necessary. It is reasonable to assume that other municipalities throughout California where special studies have not been conducted will not be able to meet the proposed criteria as well, requiring public agencies throughout California to collect and treat its stormwater discharges. This is unreasonable and is not consistent with the intent of the CWA.

Response to: CTR-062-002

See response to CTR-040-004.

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Comment ID: CTR-069-002a

Comment Author: CA Bus Prop Ass & Bldg Ind Ass

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: J-01 MS4s/CSOs/Industries Costs

References:

Attachments? N

CROSS REFERENCES E-01j

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Comment: Additionally, CBIA and CBPA are concerned with the findings in the "Economic Analysis of the Proposed California Water Quality Toxics Rule." The acknowledgment by EPA in the economic analysis that "the water quality criteria in this rule may also have an indirect effect on sources not permitted under the NPDES program or not subject to numeric water quality-based effluent limits is extremely troublesome. Sources not permitted under the NPDES program include nonpoint sources and wet weather discharges such as runoff from farms and urban areas. The economic analysis continues by stating that "any potential effect on these sources is unknown at this time" and that "the State may ask or require these sources to implement best management practices or participate in a comprehensive watershed management approach. Since the economic analysis only focuses on the costs to point source dischargers and not non-point discharges, CBIA and CBPA believe that the potential economic impact of the proposed rule is greater than identified in the economic analysis.

We thank you for your consideration of these comments.

Response to: CTR-069-002a

EPA did not include benefits or costs of controlling nonpoint sources or storm water dischargers in its estimates of benefits and costs of the CTR. EPA believes that the final rule will not have a direct effect on sources not permitted under the NPDES program (e.g., nonpoint sources) or NPDES sources not typically subject to numeric water quality-based effluent limits (e.g., wet weather discharges). Any potential indirect effect on nonpoint sources and wet weather discharges, such as runoff from farms, urban areas, and abandoned mines, and contaminated sediment, is unknown at this time. Many of the programs developed to control nonpoint sources and wet weather discharges are already in place. Costs due to these programs have already been incurred or will soon be incurred owing to existing federal, State, and local environmental programs.

EPA also acknowledges that nonpoint sources and wet weather discharges are technically difficult to model and evaluate costs because they are intermittent and highly variable. Nonpoint source and wet weather discharges also occur under different hydrologic or climatic conditions than continuous discharges from industrial and municipal facilities, which are evaluated under critical low flow or drought conditions. Thus, evaluating agricultural nonpoint source discharges and storm water discharges and their effects on the environment is highly site-specific and data intensive. Until this information is available, it is premature to project that the sources would incur any costs beyond those for which they

are already responsible under the current regulations of the Clean Water Act.

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Comment ID: CTR-071-002

Comment Author: City of Rosemead

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J-01 MS4s/CSOs/Industries Costs

References: Letter CTR-071 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

**CROSS REFERENCES**

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program.

2. The application of water quality standards to MS4 stormwater discharges would result in end-of-pipe treatment to reasonably achieve compliance and provide limited environmental benefit. Putting aside the issue of whether water quality standards apply to MS4s, the CTR as presently proposed will require stormwater agencies to incur significant cost with minimal improvement in water quality. Based on studies conducted by the County of Sacramento and the Fresno Metropolitan Flood Control District, stormwater discharges being controlled through an aggressive BMP-based program could not be certain of achieving the proposed water quality criteria. To achieve the criteria, end-of-pipe treatment would be necessary. It is reasonable to assume that other municipalities throughout California where special studies have not been conducted will not be able to meet the proposed criteria as well, requiring public agencies throughout California to collect and treat its stormwater discharges. This is unreasonable and is not consistent with the intent of the CWA.

Response to: CTR-071-002

See response to CTR-040-004.

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Comment ID: CTR-072-002

Comment Author: City of Bell Gardens

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J-01 MS4s/CSOs/Industries Costs

References: Letter CTR-071 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

**CROSS REFERENCES**

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program.

2. The application of water quality standards to MS4 stormwater discharges would result in end-of-pipe treatment to reasonably achieve compliance and provide limited environmental benefit. Putting aside the issue of whether water quality standards apply to MS4s, the CTR as presently proposed will require stormwater agencies to incur significant cost with minimal improvement in water quality. Based on studies conducted by the County of Sacramento and the Fresno Metropolitan Flood Control District, stormwater discharges being controlled through an aggressive BMP-based program could not be certain of achieving the proposed water quality criteria. To achieve the criteria, end-of-pipe treatment would be necessary. It is reasonable to assume that other municipalities throughout California where special studies have not been conducted will not be able to meet the proposed criteria as well, requiring public agencies throughout California to collect and treat its stormwater discharges. This is unreasonable and is not consistent with the intent of the CWA.

Response to: CTR-072-002

See response to CTR-040-004.

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Comment ID: CTR-073-002

Comment Author: City of Paramount

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J-01 MS4s/CSOs/Industries Costs

References: Letter CTR-073 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

**CROSS REFERENCES**

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program.

2. The application of water quality standards to MS4 stormwater discharges would result in end-of-pipe treatment to reasonably achieve compliance and provide limited environmental benefit. Putting aside the issue of whether water quality standards apply to MS4s, the CTR as presently proposed will require stormwater agencies to incur significant cost with minimal improvement in water quality. Based on studies conducted by the County of Sacramento and the Fresno Metropolitan Flood Control District, stormwater discharges being controlled through an aggressive BMP-based program could not be certain of achieving the proposed water quality criteria. To achieve the criteria, end-of-pipe treatment would be necessary. It is reasonable to assume that other municipalities throughout California where special studies have not been conducted will not be able to meet the proposed criteria as well, requiring public agencies throughout California to collect and treat its stormwater discharges. This is unreasonable and is not consistent with the intent of the CWA.

Response to: CTR-073-002

See response to CTR-040-004.

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Comment ID: CTR-074-002

Comment Author: City of San Gabriel  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: J-01 MS4s/CSOs/Industries Costs  
References: Letter CTR-074 incorporates by reference letters CTR-013 and CTR-027  
Attachments? N  
**CROSS REFERENCES**

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

2. The application of water quality standards to MS4 stormwater discharges would result in end-of-pipe treatment to reasonably achieve compliance and provide limited environmental benefit. Putting aside the issue of whether water quality standards apply to MS4s, the CTR as presently proposed will require stormwater agencies to incur significant cost with minimal improvement in water quality. Based on studies conducted by the County of Sacramento and the Fresno Metropolitan Flood Control District, stormwater discharges being controlled through an aggressive BMP-based program could not be certain of achieving the proposed water quality criteria. To achieve the criteria, end-of-pipe treatment would be necessary. It is reasonable to assume that other municipalities throughout California where special studies have not been conducted will not be able to meet the proposed criteria as well, requiring public agencies throughout California to collect and treat its stormwater discharges. This is unreasonable and is not consistent with the intent of the CWA.

Response to: CTR-074-002

See response to CTR-040-004.

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Comment ID: CTR-075-002  
Comment Author: City of El Monte  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/24/97  
Subject Matter Code: J-01 MS4s/CSOs/Industries Costs  
References: Letter CTR-075 incorporates by reference letters CTR-013 and CTR-027  
Attachments? N  
**CROSS REFERENCES**

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program;

2. The application of water quality standards to MS4 stormwater discharges would result in end-of-pipe treatment to reasonably achieve compliance and provide limited environmental benefit. Putting aside the issue of whether water quality standards apply to M84s, the CTR as presently proposed will require stormwater agencies to incur significant cost with minimal improvement in water quality. Based on studies conducted by the County of Sacramento and the Fresno Metropolitan Flood Control District,

stormwater discharges being controlled through an aggressive BMP-based program could not be certain of achieving the proposed water quality criteria. To achieve the criteria, end-of-pipe treatment would be necessary. It is reasonable to assume that other municipalities throughout California where special studies have not been conducted will not be able to meet the proposed criteria as well, requiring public agencies throughout California to collect and treat its stormwater discharges. This is unreasonable and is not consistent with the intent of the CWA.

Response to: CTR-075-002

See response to CTR-040-004.

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Comment ID: CTR-076-002

Comment Author: City of Cudahy

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J-01 MS4s/CSOs/Industries Costs

References: Letter CTR-076 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR) , which are of major impact to our stormwater program:

2. The application of water quality standards to MS4 stormwater discharges would result in end-of-pipe treatment to reasonably achieve compliance and provide limited environmental benefit. Putting aside the issue of whether water quality standards apply to MS4s, the CTR as presently proposed will require stormwater agencies to incur significant cost with minimal improvement in water quality. Based on studies conducted by the County of Sacramento and the Fresno Metropolitan Flood Control District, stormwater discharges being controlled through an aggressive BMP-based program could not be certain of achieving the proposed water quality criteria. To achieve the criteria, end-of-pipe treatment would be necessary. It is reasonable to assume that other municipalities throughout California where special studies have not been conducted will not be able to meet the proposed criteria as well, requiring public agencies throughout California to collect and treat its stormwater discharges. This is unreasonable and is not consistent with the intent of the CWA.

Response to: CTR-076-002

See response to CTR-040-004.

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Comment ID: CTR-078-002

Comment Author: City of Maywood

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J-01 MS4s/CSOs/Industries Costs

References: Letter CTR-078 incorporates by reference letter CTR-013

Attachments? N

**CROSS REFERENCES**

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

2. The application of water quality standards to MS4 stormwater discharges would result in end-of-pipe treatment to reasonably achieve compliance and provide limited environmental benefit. Putting aside the issue of whether water quality standards apply to MS4s, the CTR as presently proposed will require stormwater agencies to incur significant cost with minimal improvement in water quality. Based on studies conducted by the County of Sacramento and the Fresno Metropolitan Flood Control District, stormwater discharges being controlled through an aggressive BMP-based program could not be certain of achieving the proposed water quality criteria. To achieve the criteria, end-of-pipe treatment would be necessary. It is reasonable to assume that other municipalities throughout California where special studies have not been conducted will not be able to meet the proposed criteria as well, requiring public agencies throughout California to collect and treat its stormwater discharges. This is unreasonable and is not consistent with the intent of the CWA.

Response to: CTR-078-002

See response to CTR-040-004.

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Comment ID: CTR-079-002

Comment Author: City of Glendale

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: J-01 MS4s/CSOs/Industries Costs

References: Letter CTR-079 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

**CROSS REFERENCES**

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

2. The application of water quality standards to MS4 stormwater discharges would result in end-of-pipe treatment to reasonably achieve compliance and provide limited environmental benefit. Putting aside the issue of whether water quality standards apply to MS4s, the CTR as presently proposed will require stormwater agencies to incur significant cost with minimal improvement in water quality. Based on studies conducted by the County of Sacramento and the Fresno Metropolitan Flood Control District, stormwater discharges being controlled through an aggressive BMP based program could not be certain of achieving the proposed water quality criteria. To achieve the criteria, end-of-pipe treatment would be necessary. It is reasonable to assume that other municipalities throughout California where special studies have not been conducted will not be able to meet the proposed criteria as well, requiring public agencies throughout California to collect and treat its stormwater discharges. This is unreasonable and is

not consistent with the intent of the CWA.

Response to: CTR-079-002

See response to CTR-040-004.

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Comment ID: CTR-087-003

Comment Author: Morrison & Foerster LLP

Document Type: Storm Water District

State of Origin: CA

Represented Org: SCVURPPP

Document Date: 09/24/97

Subject Matter Code: J-01 MS4s/CSOs/Industries Costs

References: Letter CTR-087 incorporates by reference letters CTR-001 and CTR-027

Attachments? N

**CROSS REFERENCES**

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Comment: Finally, even if the Elliot Memo were not incorrect (and, given the plain language of the statute, it clearly is), EPA's position that WQBELs may be applied in municipal stormwater permits requires that it conduct an economic analysis of the proposed rule's potential impact on municipal stormwater dischargers. In this regard, it makes no difference whether WQBELs are expressed as numeric effluent limitations or in the form of BMPS. For if BMPs must be calculated on the basis of the numeric criteria contained in the proposed CTR rather than on section 402(p)(3)(B)(iii)'s maximum extent practicable standard, they are likely to have significant economic consequences -- consequences the Agency has failed to even attempt to analyze in its proposal.

Members of the SCVURPPP look forward to EPA revising its proposal to address the comments contained in this letter and those offered by their fellow municipal stormwater dischargers.

Please contact me at the telephone number listed above if you have any questions concerning the matters covered by this letter or wish to discuss them further.

Response to: CTR-087-003

EPA did not include benefits or costs of controlling nonpoint sources or storm water dischargers in its estimates of benefits and costs of the CTR. EPA believes that the final rule will not have a direct effect on sources not permitted under the NPDES program (e.g., nonpoint sources) or NPDES sources not typically subject to numeric water quality-based effluent limits (e.g., wet weather discharges). Any potential indirect effect on nonpoint sources and wet weather discharges, such as runoff from farms, urban areas, and abandoned mines, and contaminated sediment, is unknown at this time. Many of the programs developed to control nonpoint sources and wet weather discharges are already in place. Costs due to these programs have already been incurred or will soon be incurred owing to existing federal, State, and local environmental programs.

EPA also acknowledges that nonpoint sources and wet weather discharges are technically difficult to model and evaluate costs because they are intermittent and highly variable. Nonpoint source and wet weather discharges also occur under different hydrologic or climatic conditions than continuous discharges from industrial and municipal facilities, which are evaluated under critical low flow or

drought conditions. Thus, evaluating agricultural nonpoint source discharges and storm water discharges and their effects on the environment is highly site-specific and data intensive.

See also response to CTR-040-004.

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Subject Matter Code: J-02 RFA - Small Entity Cost

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Comment ID: CTR-001-008a  
Comment Author: Law Offices of Alan C. Waltner  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org: Alameda Cnty Clean Wtr Pgm  
Document Date: 09/22/97  
Subject Matter Code: J-02 RFA - Small Entity Cost

References:

Attachments? N

CROSS REFERENCES R

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Comment: EPA'S PROPOSAL VIOLATES THE REGULATORY FLEXIBILITY ACT

Several of the member agencies of the ACCWP have populations less than 50,000 (Piedmont, Emeryville, Albany) and will be significantly affected by the proposed rule if it results in the adoption of NELs or WLAs in the permit for their discharges. These "small entities" under the Regulatory Flexibility Act ("RFA") are entitled to both initial and final regulatory flexibility analyses under the RFA.

EPA's finding that a substantial number of small entities will not be significantly affected by the proposed rule is arbitrary and capricious given this demonstrated impact. A substantial number of municipalities less than 50,000 in population are currently covered by NPDES permits for their storm water discharges. In addition, EPA's upcoming Phase II storm water regulations may substantially expand the universe of small municipalities that will be subject to NPDES permits and, through those permits, to the provisions of the CTR.

Neither the ACCWP, the ACCWP's member agencies or, to our knowledge, any other storm water system that will be subject to this rule, was contacted by EPA in advance of the proposed rulemaking and given a reasonable opportunity to participate in the rulemaking as required by 5 U.S.C. section 609(a). In addition, as a "covered agency" under 5 U.S.C. section 609, EPA must process the proposed rule in accordance with the provisions of that section, including the convening of a review panel, but apparently has failed to do so.

Response to: CTR-001-008a

See response to CTR-001-008b, CTR-050-007a, and the preamble to the final rule.

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Comment ID: CTRH-001-005a  
Comment Author: Alan Waltner  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Alameda Cnty Clean Wtr Pgm  
Document Date: 09/17/97  
Subject Matter Code: J-02 RFA - Small Entity Cost

References:

Attachments? N

CROSS REFERENCES R

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Comment: If you go beyond best management practices, you're impliedly eliminating those provisions of the 1995 Basin Plan. I think it would clearly violate the Regulatory Flexibility Act, since you haven't considered the costs of controls.

If, again, our dischargers had to do whatever it took, our members had to do whatever it took -- and in fact, several of our dischargers are small entities under the Regulatory Flexibility Act: the City of Emeryville, the City of Albany, the City of Piedmont.

The NPDES permits small entities and municipalities under 50,000 in number. If they had to do whatever it took to provide the waste allocations without consideration of the economic impact, those entities, because of the practical problems of needing 50 coliseums of storage in the Bay Area and the practical considerations that plague us -- and the only place you could put that is by the bay, where you have a serious problem with requirements under the Endangered Species Act.

To the extent you're standing in the shoes of the state in promulgating these standards, you violate the cost/benefit balances provision of the Porter Cologne Act.

Response to: CTRH-001-005a

See responses to CTR-001-008b, CTR-050-007a, CTR-035-011a, and the preamble to the final rule.

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Comment ID: CTRH-001-008b  
Comment Author: Doug Harrison  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Fresno Met. Flood Control  
Document Date: 09/17/97  
Subject Matter Code: J-02 RFA - Small Entity Cost  
References:  
Attachments? N  
CROSS REFERENCES R

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Comment: Looking at the results of our monitoring and your criteria, we'll have to achieve another 70 to 90 percent reduction in pollutants in order to be in compliance. That means we'd have to increase our storage volume to 20,000 acre feet just to handle average annual runoff we have underway right now.

That's a price tag of \$220 million to \$400 million to try to stay in compliance with the current criteria if you interpret the rule to apply to us -- 220 million. And then we can't prevent major storm events in our community, storm impacts that cause a discharge, in which case 100 percent of the discharges would exceed -- would be out of compliance, even though we were retaining 100 percent of the average annual rainfall.

We think that raises a problem with the Regulatory Flexibility Act, both in terms of the cost analysis itself and the impact that accrues to small communities, certainly with respect to the executive order. Just in our case alone the \$100 million limit is in serious trouble, dealing with compliance with a five-year schedule just in our community with the possibility of \$80 million per year of expense. That does not include O & M cost in that system.

Response to: CTRH-001-008b

EPA disagrees with the commenter's cost estimates, because EPA does not believe that additional storage capacity will need to be constructed to comply with the CTR. However, no details of the cost estimate were provided, thus, EPA could not evaluate the estimated cost. See also response to CTR-001-008b, CTR-040-004, and CTR-050-007a.

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Comment ID: CTRH-002-004

Comment Author: Chris Compton

Document Type: Public Hearing

State of Origin: CA

Represented Org: County of Orange

Document Date: 09/18/97

Subject Matter Code: J-02 RFA - Small Entity Cost

References:

Attachments? N

**CROSS REFERENCES**

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Comment: Is the economic analysis appropriate?

Most of the municipal stormwater permittees in Orange County are communities of less than 100,000 in population. I might add that most of the permittees in California are small communities.

Based on our monitoring data and studies conducted by others, it is reasonable to assume that stormwater discharges from these small communities would be faced with the same compliance issues as the large and medium municipalities. EPA failed to address this potential impact in its economic analysis of the proposed rule.

Response to: CTRH-002-004

See responses to CTR-001-008b, CTR-050-007a, and the preamble to the final rule.

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Subject Matter Code: J-04 End-of-Pipe Treatment v. BMP

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Comment ID: CTR-031-007b

Comment Author: Fresno Metro. Flood Ctrl Dist.

Document Type: Flood Ctrl. District

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J-04 End-of-Pipe Treatment v. BMP

References: Letter CTR-031 incorporates by reference letter CTR-027

Attachments? N

CROSS REFERENCES F

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Comment: C. If the CTR as proposed in the current draft is applied to municipal storm water dischargers as numeric effluent limitations, new end-of -pipe facilities will result. The impact of these facilities on the environment in general, and endangered species in particular, must therefore be specifically reviewed pursuant to the National Environmental Policy Act and Endangered Species Act.

End-of-pipe facilities would be required for municipal storm water dischargers in their attempt to meet the subject criteria. Storm water facilities must be located in the lowest topographic areas, which contain many of our most valuable and already diminished wetland habitats. This readily foreseeable environmental consequence of the CTR, if directly applied to municipal storm water dischargers, should not be ignored.

Response to: CTR-031-007b

With respect to ESA, EPA has completed consultation as required by Section 7 of the ESA. With respect to compliance with NEPA, section 511(c) of the Clean Water Act excludes this rulemaking from the requirements of NEPA. The comment also assumes that stormwater discharges subject to numeric effluent limitations will have to be treated by new end-of-pipe facilities. As explained in the response to Storm Water Economics Comments (Category J, Comment CTR-040-004), EPA believes that implementation of criteria as applied to wet-weather discharges will not require the construction of end-of-pipe facilities.

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Comment ID: CTR-042-002

Comment Author: Cal. Dept. of Transportation

Document Type: State Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: J-04 End-of-Pipe Treatment v. BMP

References:

Attachments? Y

CROSS REFERENCES

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Comment: 2. If municipal storm water dischargers are required to meet water quality standards, this will result in the need for installation of expensive end-of-pipe treatment.

As explained in Attachment A included with these comments, Caltrans storm water discharges will, in many instances, be unable to comply with the proposed CTR numeric water quality criteria. In fact, as shown in Attachment A, falling rainwater (which acts as a mechanism for atmospheric deposition) cannot comply with the CTR criteria. As graphically illustrated in Figures 11 and 12 of Attachment A, the concentration of pollutants in the falling rainwater is a substantial fraction of the concentration of those pollutants found in storm water runoff. This demonstrates that atmospheric deposition may be a large source of pollutants in storm water.

The conclusion contained in Attachment A further states that if Caltrans is required to comply with the water quality standards proposed in the CTR, it will be forced to install costly end-of-pipe treatment.

Application of the necessary treatment technologies statewide for all of Caltrans facilities and rights-of-way equates to an astronomical cost. These costs were not even considered in EPA's Economic Analysis for the CTR.

Requests:

\* Caltrans requests that EPA clarify the language of the CTR Preamble to state that municipal storm water dischargers must only implement BMPs to reduce the discharge of pollutants to the MEP.

\* If the Preamble is not adjusted as requested above, EPA must adjust the costs contained in its Economic Analysis to reflect the potential cost to Caltrans and other municipal storm water dischargers that may be required to meet water quality standards by implementing BMPs and/or advanced treatment technologies.

Response to: CTR-042-002

See response to CTR-040-004.

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Comment ID: CTR-047-002

Comment Author: City of Santa Fe Springs

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: J-04 End-of-Pipe Treatment v. BMP

References: Letter CTR-047 incorporates by reference letters CTR-013 and CTR-027.

Attachments? N

CROSS REFERENCES

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our storm water program:

2. The application of water quality standards to MS4 storm water discharges would result in end-of-pipe treatment to reasonably achieve compliance and provide limited environmental benefit. Putting aside the issue of whether water quality standards apply to MS4s, the CTR as presently proposed will require storm water agencies to incur significant cost with minimal improvement in water quality. Based on

studies conducted by the County of Sacramento and the Fresno Metropolitan Flood Control District, storm water discharges being controlled through an aggressive BMP-based program could not be certain of achieving the proposed water quality criteria. To achieve the criteria, end-of-pipe treatment would be necessary. It is reasonable to assume that other municipalities throughout California where special studies have not been conducted will not be able to meet the proposed criteria as well, requiring public agencies throughout California to collect and treat its storm-water discharges. This is unreasonable and is not consistent with the intent of the CWA.

Response to: CTR-047-002

See response to CTR-040-004.

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Comment ID: CTR-080-002

Comment Author: City of Los Angeles

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J-04 End-of-Pipe Treatment v. BMP

References: Letter CTR-080 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES

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Comment: The City of Los Angeles is hereby transmitting its comments regarding the proposed California Toxics Rule (CTR). I would like to begin by stating that the City currently spends an average of \$28 million annually on its Stormwater Management Program. The majority of Program activities are guided by the Los Angeles County Municipal Stormwater Permit, which dictates the use of Best Management Practices to control pollutants to the maximum extent practicable. We are primarily concerned with how the CTR may impact the Stormwater Management Program.

\* The City is concerned that the application of water quality standards to municipal separate storm sewers, may result in end-of-pipe treatment. There are issues regarding the feasibility and environmental benefits of such treatment.

Response to: CTR-080-002

See response to CTR-040-004.

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Comment ID: CTRH-001-042

Comment Author: Kathy Russick

Document Type: Public Hearing

State of Origin: CA

Represented Org: Sacramento Co. Stormwater

Document Date: 09/17/97

Subject Matter Code: J-04 End-of-Pipe Treatment v. BMP

References:

Attachments? N

## CROSS REFERENCES

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Comment: As Dave Brent of the City of Sacramento mentioned already, we have evaluated the numeric limits proposed in the rule against six years of our stormwater programs' monitoring data. We have identified five constituents that will be a problem -- where we will likely have a problem in meeting the numeric discharge limits: copper, zinc, lead, PAHs and pentachlorophenol. These also show up as problem constituents for other stormwater programs in the state as well.

We evaluated the reductions that we could attain through intense BMP and source control efforts and determined that, if implemented, we still could not reduce the concentration of these constituents enough to meet the numeric limits. And this leads us inevitably to end-of-pipe treatment.

I would like to illustrate for you the obstacles that a stormwater program faces in meeting numeric limits. This past year the Sacramento Stormwater Program conducted an intense effort to evaluate specifically lead, a high-priority stormwater constituent of concern for us as well as EPA.

A major part of our effort was to identify all potential sources of lead to stormwater in Sacramento County. We identified about 50 individual sources of lead. So the next step in our effort was to determine which of these sources of lead we could actually control considering the nature of the sources, the practicality of controlling the sources, and the legal jurisdiction of our respective agencies, et cetera.

Only a portion of the sources that we identified we could address through source control and BMPs within our program. An example of some of those sources that we have no or very limited control over are: soil erosion, the natural soil erosion that just happens, not to do with construction; aircraft fuel emissions -- by the way, aircraft fuel does not come in unleaded form; automobile emissions, which still contain some lead; abrasion of road striping paint; and the abrasion of tires. These are to name a few.

Our program is now in the process of incorporating practical control measures that we did identify for lead into the various implementation elements of our program, particularly our Industrial Management Program, though we realize that we can only get at a portion of the lead sources in our stormwater.

I would like to note that we are initiating a similar source identification/source control effort for copper this year and anticipate similar results as we experienced for lead, that we will be able to address only a portion of the sources of copper in our stormwaters.

We, the Sacramento Stormwater Program, are not just throwing up our hands and giving up on controlling the problem constituents in our area. We are pursuing control measures and implementing BMPs to address those sources that we can address. And we are committed to continuing this effort.

We are implementing ever-escalating BMPs. We are striving toward maximum extent practicable in accordance with the Clean Water Act. But we have limited control over the pollution of our stormwater.

Now, after looking at lead sources in Sacramento, we are again back to end-of-pipe treatment. We're pushed to end-of-pipe treatment.

The price tag that has been estimated for end-of-pipe treatment for Sacramento County is \$2 billion. That, amortized over 20 years, is \$200 million per year. End-of-pipe treatment for municipal stormwater programs was never the intent of the Clean Water Act.

Plus, what would be achieved overall if we did end-of-pipe treatment in Sacramento County? The County makes up only a fraction of the Sacramento River watershed, and while we would spend \$2 billion on end-of-pipe treatment, the majority of the stormwater occurring within the entire watershed would go unchecked.

In conclusion, I emphasize that the target of municipal programs should be maintained as the maximum extent practicable. If this is indeed the intent of the California Toxics Rule, then clarify that in the rule.

I would like to thank you for the opportunity to speak on behalf of Sacramento County today.

Response to: CTRH-001-042

EPA disagrees with the commenter's cost estimate of \$2 billion because EPA does not believe that end-of-pipe treatment will be required to comply with the CTR. However, no details of the cost estimate were provided, thus, EPA could not evaluate the estimated cost. See also response to CTR-040-004.

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Comment ID: CTRH-001-060b  
Comment Author: Ellen Johnck  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Bay Planning Coalition  
Document Date: 09/17/97  
Subject Matter Code: J-04 End-of-Pipe Treatment v. BMP  
References:  
Attachments? N  
CROSS REFERENCES B

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Comment: Secondarily and thirdly -- these two are tied together, the whole -- all our members that comply and have to secure the stormwater permits, we have been looking at how much it would cost us to build facilities to do some kind of end-of-pipe treatment to actually meet some of these numeric criteria for stormwater.

We don't think the economic evaluation that EPA has done is valid. Basically, there are a lot of shortcomings to it, and you have already heard today some of the numbers. The actual amount of money needed to build new facilities is way beyond the \$86 million estimate that you have indicated in your analysis.

And based on this very serious economic evaluation shortcoming, I am recommending that at least a 30-day time limit be provided so that you can hear from the permit applicants regarding the statement to show you what the costs really are, and we'd like some more time to do that.

Those are essentially the substance of my comments today. Thank you.

Response to: CTRH-001-060b

See response to CTR-040-004.

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Comment ID: CTRH-002-002  
Comment Author: Chris Compton  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: County of Orange  
Document Date: 09/18/97  
Subject Matter Code: J-04 End-of-Pipe Treatment v. BMP  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: Are the criteria attainable?

Orange County has developed and implemented a municipal stormwater quality management plan (also known as the Drainage Area Management Plan) which is applicable countywide. The Drainage Area Management Plan identifies a number of BMPs that address the major source categories of urban stormwater pollutants. These BMPs have been reviewed and approved by the respective regional water quality control boards. However, we have conducted a preliminary attainability analysis and have determined that, after considerable cost to fully implement a BMP-based program, it may not achieve compliance with proposed criteria for dissolved metals without regional or national product substitutions.

Although substantial public resources have been committed to implementation of this program, the municipal stormwater discharges in Orange County seem unlikely to attain all of the proposed criteria within the required compliance period. The alternative would be to collect and treat stormwater discharges as described in the Task Force testimony yesterday.

In addition to the capital cost, construction of these facilities would result in the displacement of jobs and housing as well as a loss of habitat. We believe that Congress intended municipal stormwater permits to implement programs to address sources of pollutants, not to provide end-of-pipe treatment to meet the numerical criteria.

Response to: CTRH-002-002

See response to CTR-040-004.

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Subject Matter Code: J-05 BMPs Inability to Comply

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Comment ID: CTR-040-025

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J-05 BMPs Inability to Comply

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

**CROSS REFERENCES**

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Comment: EPA erroneously assumes that municipal stormwater dischargers can comply with the water quality criteria with BMPs and that BMPs do not cost money. Both assumptions are incorrect as evidenced by attainability analyses performed by several municipal stormwater dischargers.

Response to: CTR-040-025

See response to CTR-040-004.

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Comment ID: CTR-041-021

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: J-05 BMPs Inability to Comply

References:

Attachments? N

**CROSS REFERENCES**

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Comment: EPA erroneously assumes that municipal stormwater dischargers can comply with the water quality criteria with BMPs and that BMPs do not cost money. Both assumptions are incorrect as evidenced by attainability analyses performed by several municipal stormwater dischargers.

Response to: CTR-041-021

EPA did not include benefits or costs of controlling nonpoint sources or storm water dischargers in its estimates of benefits and costs of the CTR. EPA believes that the final rule will not have a direct effect on sources not permitted under the NPDES program (e.g., nonpoint sources) or NPDES sources not typically subject to numeric water quality-based effluent limits (e.g., wet weather discharges). Any potential indirect effect on nonpoint sources and wet weather discharges, such as runoff from farms, urban areas, and abandoned mines, and contaminated sediment, is unknown at this time. Many of the programs developed to control nonpoint sources and wet weather discharges are already in place. Costs due to these programs have already been incurred or will soon be incurred owing to existing federal, State, and local environmental programs.

EPA also acknowledges that nonpoint sources and wet weather discharges are technically difficult to model and evaluate costs because they are intermittent and highly variable. Nonpoint source and wet weather discharges also occur under different hydrologic or climatic conditions than continuous discharges from industrial and municipal facilities, which are evaluated under critical low flow or drought conditions. Thus, evaluating agricultural nonpoint source discharges and storm water discharges and their effects on the environment is highly site-specific and data intensive.

See also response to CTR-040-004.

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Comment ID: CTR-044-016  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: J-05 BMPs Inability to Comply  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: EPA erroneously assumes that municipal stormwater dischargers can comply with the water quality criteria with BMPs and that BMPs do not cost money. Both assumptions are incorrect as evidenced by attainability analyses performed by several municipal stormwater dischargers.

Response to: CTR-044-016

See response to CTR-040-004.

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Comment ID: CTR-054-020  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: J-05 BMPs Inability to Comply  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: EPA erroneously assumes that municipal stormwater dischargers can comply with the water quality criteria with BMPs and that BMPs do not cost money. Both assumptions are incorrect as evidenced by attainability analyses performed by several municipal stormwater dischargers.

Response to: CTR-054-020

EPA did not include benefits or costs of controlling nonpoint sources or storm water dischargers in its estimates of benefits and costs of the CTR. EPA believes that the final rule will not have a direct effect on sources not permitted under the NPDES program (e.g., nonpoint sources) or NPDES sources not typically subject to numeric water quality-based effluent limits (e.g., wet weather discharges). Any potential indirect effect on nonpoint sources and wet weather discharges, such as runoff from farms, urban areas, and abandoned mines, and contaminated sediment, is unknown at this time. Many of the programs developed to control nonpoint sources and wet weather discharges are already in place. Costs due to these programs have already been incurred or will soon be incurred owing to existing federal, State, and local environmental programs.

EPA also acknowledges that nonpoint sources and wet weather discharges are technically difficult to model and evaluate costs because they are intermittent and highly variable. Nonpoint source and wet weather discharges also occur under different hydrologic or climatic conditions than continuous discharges from industrial and municipal facilities, which are evaluated under critical low flow or drought conditions. Thus, evaluating agricultural nonpoint source discharges and storm water discharges and their effects on the environment is highly site-specific and data intensive.

See also response to CTR-001-002.

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Comment ID: CTR-096-003b  
Comment Author: City of Modesto  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: J-05 BMPs Inability to Comply  
References:  
Attachments? N  
CROSS REFERENCES E-01c01

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Comment: Thank you for the opportunity to comment on the proposed California Toxics Rule. The City's comments are related to five main concepts:

3. The cost implications of these numerical standards are estimated to exceed \$100 million to the City of Modesto alone, thereby triggering the President's Executive Order 12866 requiring a more detailed and comprehensive cost-benefit assessment of these proposed standards.

Specifically, the City submits the following comments:

E. Under the proposed rule, Best Management Practices (BMPS) are recommended for compliance with the California Toxic Rule. BMPs may include a variety of processes. Each of these processes may have an associated construction and operation cost. For the City of Modesto, due to the design of the wastewater and stormwater collection systems, it may cost between \$25 million to \$50 million to construct acceptable BMPS. Existing BMPs may not reduce the pollutant level below that listed in the proposed CRT. Therefore, it is our opinion that construction costs presented in the California Toxic Rule are significantly under estimated. Constructed treatment facilities for wastewater and storm water, beyond BMPS, could exceed \$1 00 million for Modesto alone. In addition, annual operation and maintenance costs for BMPs and treatment facilities exceed \$1,000,000.

In summary, the proposed regulation is significant because it may well impose costs that are greater than \$100 million per year on the regulated community, the majority of which are local public agencies. Regardless of the dollar amount, it is likely to adversely affect, in a material way, the economy, the environment, and local governments.

Thank you in advance for consideration of my comments on the CTR.

Response to: CTR-096-003b

With respect to wet-weather compliance with the CTR see response to CTR-040-004. With respect to EPA's compliance with E.O. 12866 see CTRH-002-006a (Category I; Stormwater/Wet Weather Discharges).

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Subject Matter Code: J-06 NEPA

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Comment ID: CTR-001-009b  
Comment Author: Law Offices of Alan C. Waltner  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org: Alameda Cnty Clean Wtr Pgm  
Document Date: 09/22/97  
Subject Matter Code: J-06 NEPA  
References:  
Attachments? N  
CROSS REFERENCES F

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Comment: THE PROPOSAL VIOLATES THE NATIONAL ENVIRONMENTAL POLICY ACT AND ENDANGERED SPECIES ACT, AND WOULD USURP THE ROLE OF CONGRESS AND THE STATE AND REGIONAL BOARDS

Major environmental impacts of controls could also be foreseen if the water quality standards of the proposed CTR were to apply as numeric effluent limitations or wasteload allocations. This would result in the requirement to prepare an EIS in connection with the proposed rule. (\*13) In effect, substantial end-of-pipe treatment facilities on the same order of magnitude as existing POTWs in the Bay Area could be necessary.

Given the scale and location of the facilities that would be required, significant wetland, endangered species and other environmental impacts could occur. EPA must fully evaluate these impacts of the proposed rule before the rule is promulgated. (\*14)

A more expansive application of the WQS also would usurp the basin planning process to the extent that the regional boards have included textual discussions of how ambient water quality criteria are to be implemented, particularly with respect to MS4s. The San Francisco Basin Plan states generally that WQS are to be addressed by MS4s through escalating BMPs. EPA has not taken action to disapprove the San Francisco Basin Plan and cannot implicitly repeal portions of that plan through inconsistent preamble language in the currently proposed rule.

Congress has already addressed this significant public policy question and the agency cannot shed its Congressional leash and arrogate legislative power. This is particularly true given the massive expenditures of public funds that could be implicated under at least the more expansive view of what EPA has proposed. We elect our representatives in Congress to balance these major questions, such as the matter of whether local funds should be siphoned from schools, police, infrastructure, etc., to fund storm water controls at the scale necessary to meet WQS regardless of cost. Congress has determined in Section 402(p) that MS4s need only adopt controls to reduce pollutants in storm water to the maximum extent practicable, and to effectively prohibit non-storm water discharges to the storm water system, rather than being subjected to infeasible or exorbitantly expensive numeric effluent limitations.(\*15)

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(\*13) To the extent that the CTR will force development of end-of-pipe treatment systems, promulgation of the CTR will represent a major federal action significantly affecting the quality of the human environment under the National Environmental Policy Act, triggering the requirement to develop an environmental impact statement to support the rule.

(\*14) Commenters have been limited in their ability to present specific information on the question of endangered species, wetland and other environmental impacts given the short comment period on the proposal and EPA's refusal to extend that comment period.

(\*15) In Sections 402(p)(5) and (6)f Congress also directed that the approach to meeting water quality standards should MEP-level controls on major dischargers fall short would be to study and expand the scope of the program to include additional dischargers. No mention is made of subjecting major MS4s to more stringent controls. In fact, the regulations are expressly required to target stormwater discharges, other than those discharges described in paragraph (2) [major MS4s], to be regulated to protect water quality - 33 U.S.C. section 1342(p)(6) (Emphasis added).

Response to: CTR-001-009b

With respect to compliance with NEPA, section 511(c) of the Clean Water Act excludes this rulemaking from the requirements of NEPA. The comment also assumes that stormwater discharges subject to numeric effluent limitations will have to be treated by new end-of-pipe facilities. As explained in the response to Storm Water Economics Comments (Category J, Comment CTR-040-004), EPA believes that implementation of criteria as applied to wet-weather discharges will not require the construction of end-of-pipe facilities.

The purpose of the CTR is to fill the current gaps in water quality criteria in inland surface waters and enclosed bays and estuaries. Any existing provisions in a State Basin Plan that have been approved by the State and EPA would not be negated by the preamble discussion in the CTR.

Regarding the application of MEP under section 402(p) of the CWA see response to CTR-040-004.

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Comment ID: CTRH-001-009a  
Comment Author: Doug Harrison  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Fresno Met. Flood Control  
Document Date: 09/17/97  
Subject Matter Code: J-06 NEPA  
References:  
Attachments? N  
CROSS REFERENCES F

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Comment: Lastly, it's been fairly well documented by EPA testimony before the Congress and by other state stakeholders' concerns about the end-of-pipe mandate, because the end-of-pipe facilities that must be constructed in effect create substantial damage to the riparian and other waters of the U.S. that are of primary concern to us.

With that potential, then certainly NEPA and the Endangered Species Act would require an evaluation of the impact associated with a rule causing or leading to those impacts. And again, the current rule does not consider that nor any of the cost or other impacts related to stormwater programs.

So there is a huge consistency or inconsistency problem that we think must be corrected for the rule to be consistent with the statutes and with your executive orders.

Thank you.

Response to: CTRH-001-009a

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Subject Matter Code: K Watershed Approach

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Comment ID: CTR-021-003

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: K Water Shed Approach

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

**CROSS REFERENCES**

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Comment: Sunnyvale has long been an advocate of watershed planning at the local level, and it is an enthusiastic charter participant in the Watershed Planning Initiative for the South Bay (the "WPI"). We believe that the WPI has significant potential to set the pace for "place-based" watershed management planning throughout the San Francisco Bay area, if not in California. The CTR-based criteria, particularly those for metals, will form the starting point for the water modeling which will lead to a TMDL and a wasteload allocation/load allocation for the South Bay. Accordingly, we have devoted significant time and resources to the joint efforts of our sister cities in the South Bay to work with EPA, the Regional Water Quality Control Board, affected industry, and the environmental community to make the WPI work. We believe that the WPI will be a credit to EPA's leadership and willingness to devote the considerable resources required.

In conclusion, we are entirely supportive of many of EPA's innovative approaches towards development of the CTR, particularly as regards the toxic metals. However, we believe that EPA has needlessly failed to comply with many of its legal obligations, particularly as regards the development of human health-based criteria on cancer risk levels of organic pollutants. We urge the Agency to reconsider its position in the matters covered by this letter (as amplified by the EOA Letter) and the CASA/Tri-TAC letter. Sunnyvale pledges its continued participation in place-based watershed management planning in the South Bay, its cooperation with the Agency in making a success of the WPI, and to an ongoing effort by the Agency and others to reach water quality goals in the South Bay. We thank you for the opportunity to comment on the proposed CTR.

Response to: CTR-021-003

EPA appreciates the commenter's support and significant participation in the Watershed Planning Initiative for the South Bay.

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Comment ID: CTR-032-002f

Comment Author: Las Gallinas Val. Sanitary Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: K Water Shed Approach

References: Letter CTR-032 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES G-01

C-22

G-09

C-24a

C-24

G-04

G-05

G-02

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Comment: Regulatory Flexibility and Relief

The District supports EPA's use of "sound science" and current data in developing the proposed criteria in the California Toxics Rule (CTR). The District strongly supports language in the Preamble that references and endorses recommendations of the State Task Forces including use in permitting of:

\* reasonable potential analyses \* dissolved metals criteria \* translators \* water effects ratios \* site specific objectives \* innovative TMDL processes such as effluent trading \* performance based interim limits \* chronic and acute mixing zones, and \* compliance schedules in NPDES permits.

Response to: CTR-032-002f

EPA appreciates the commenter's support of the preamble language concerning the State's use of innovative TMDL processes such as effluent trading.

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Comment ID: CTR-032-007

Comment Author: Las Gallinas Val. Sanitary Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: K Water Shed Approach

References: Letter CTR-032 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES

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Comment: Watershed Management Based Permitting Approach

Since POTWs are only responsible for contributing 1-10% of the toxics mass loading (including copper and mercury) to San Francisco Bay (CTR P. 7-7 EA) it makes economic sense to focus limited public resources on identification of larger and potentially more cost-effective sources to control. The District strongly believes that future permits should be developed using a comprehensive watershed management based approach, consistent with various EPA guidance including the August 1997 Robert Perciasepe TMDL Policy memorandum and the San Francisco Bay Regional Board's July 1997 Watershed Management Initiative Guidance.

The District supports the watershed approach where before additional control measures are imposed on point source dischargers, other potential sources of copper and mercury in the watershed that impact the receiving water need to be identified, quantified, and evaluated as to the potential cost of control

measures. Effluent trading should be permitted and encouraged where it is demonstrated to be a more cost effective pollutant reduction technique than additional point source treatment. We support the use of interim limits with compliance schedules linked to completion of special studies, in situations such as ours where compliance with final mercury and copper limits is not feasible and additional information is required to develop technically defensible and attainable final limits.

Response to: CTR-032-007

EPA appreciates District's support of the watershed management approach and its use in developing permits. However, EPA does not agree that the watershed approach should be applied in such a manner that would preclude additional point source controls until the impact of other sources of pollutants are "... identified, quantified, and evaluated as to the potential cost of control measures." We believe that TMDL development can be an effective tool to conduct such an evaluation and that TMDLs will be a component of many effective watershed management strategies.

EPA agrees with the District that pollutant trading can be a cost effective means of attaining compliance with water quality standards. EPA believes that TMDLs can provide the necessary analytical framework to implement a trading program. EPA will continue to encourage the State to evaluate such programs and will work with the State to ensure that such programs are designed equitably and do not result in the creation of "hot" spots in the watershed (See Draft Framework for Watershed-Based Trading, U.S. EPA 1996).

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Comment ID: CTR-034-011

Comment Author: SCAP

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: K Water Shed Approach

References: Letter CTR-034 incorporates by reference letter CTR-035

Attachments? N

**CROSS REFERENCES**

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Comment: \* As noted in our testimony at the September 18 public hearing, SCAP recommends that EPA describe in the Preamble the Agency's strategy for using a watershed management approach for controlling toxic pollutant inputs to the environment. This is particularly appropriate for pollutants which come primarily from nontraditional sources, are in the ambient environment primarily as a result of historical discharges (e.g. DDT, PCBs), and/or are difficult or very costly to control using end-of-pipe treatment. We believe that it is also appropriate to adopt a watershed approach for pollutants which are known to cause environmental harm - due to bioaccumulation, or other characteristics - but which are below detection levels.

Response to: CTR-034-011

EPA acknowledges the comment suggesting that it describe in the preamble the watershed management approach for controlling toxic pollutants into the environment. We believe that a detailed discussion of the watershed management approach is more appropriate in documents dedicated to the topic. Several documents already exist including EPA's Draft Framework for Watershed-Based Trading, dated May

1996, and EPA's Guidance for Water Quality-based Decisions: the TMDL Approach, dated April 1991. The preamble to the CTR contains information specific to the promulgation of the CTR. EPA appreciates the commenter's request for information and hopes that the documents listed above are informative.

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Comment ID: CTR-035-003  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: K Water Shed Approach  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Third, with respect to the criteria proposed for adoption in the draft CTR and implementation issues discussed in the preamble to the CTR, we wish to make the following recommendations to EPA.

- Consistent with EPA's Watershed Approach Framework and NPDES Watershed Strategy, EPA should describe in the Preamble the Agency's strategy for implementing a watershed management approach to achieve the CTR criteria in California, particularly since, as EPA's Economic Analysis for the CTR found, many -- if not most of the criteria will not be achieved solely with point source controls (U.S. EPA, 1996a and 1994a).

Response to: CTR-035-003

EPA acknowledges the comment suggesting that it include and describe in the preamble its strategy for implementing a watershed approach to achieve water quality standards based on CTR criteria. Please see response to CTR-034-011. The watershed approach is a flexible approach which may vary widely between water bodies in different situations. Since the State will create and implement a watershed management approach, EPA cannot prescribe an approach or strategy for the State to achieve water quality standards based on CTR criteria for all California water bodies. Various EPA publications exist for states and dischargers to use in developing strategies best suited for particular water quality situations for specific water bodies. These publications include those the commenter noted. EPA supports the State's use of a watershed management approach to implement CTR-based water quality standards for particular water bodies and pollutants.

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Comment ID: CTR-036-011  
Comment Author: County of Orange  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: K Water Shed Approach  
References: Letter CTR-036 incorporates by reference letters CTR-013, CTR-018, CTR-031, CTR-034 and CTR-040

Attachments? N

**CROSS REFERENCES**

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Comment: We are concerned that the proposed rule reflects a reversal to the command-and-control approach of water quality regulation and marks a policy shift away from the community-driven 'watershed' approach that EPA has been promoting. Orange County has a number of fledgling 'watershed' programs that we feel offer potential to effectively prioritize the approaches to be taken on a watershed-specific basis.

Response to: CTR-036-011

EPA disagrees with the comment that the CTR reflects a reversal to the command and control approach and marks a policy shift away from the watershed approach. The CTR merely sets into place water quality criteria for the State of California. These criteria, combined with the State-adopted beneficial uses, create water quality standards which are necessary to set bench marks for the State's water quality control programs, strategies, and approaches. The methods used to achieve the standards will continue to be through NPDES permits and other State programs, including programs which may utilize the watershed management approach. EPA continues to encourage and support the State's use of the watershed management approach to achieve water quality standards in various water quality control programs, and for appropriate situations.

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Comment ID: CTR-059-014

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: K Water Shed Approach

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

**CROSS REFERENCES**

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Comment: Watershed Management

The Sanitation Districts recommend that EPA describe in the Preamble the Agency's strategy for using a watershed management approach for controlling toxic pollutant inputs to the environment. This is particularly appropriate for pollutants which come primarily from nontraditional sources, are in the ambient environment primarily as a result of historical discharges (e.g. DDT, PCBs), and/or are difficult or very costly to control using end-of-pipe treatment. We also believe that a watershed approach is the appropriate way to address pollutants which are known to cause environmental harm -- due to bioaccumulation, or other characteristics -- but which are below detection levels. We particularly encourage EPA to use a flexible watershed-based approach in implementing the CTR in the types of situations described above, where a point source-oriented command-and-control strategy is not likely to be effective.

Response to: CTR-059-014

In response to the comment that EPA should describe in its preamble the watershed management approach to achieve CTR-based water quality standards, please see response to CTR-035-003.

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Comment ID: CTR-067-004b  
Comment Author: Ojai Valley Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: K Water Shed Approach  
References:  
Attachments? N  
CROSS REFERENCES E-01n

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Comment: \* In addition, EPA cannot make an accurate determination of the costs and benefits of promulgating CTR criteria for those criteria that are below achievable detection limits. Because detection limits for some pollutants will most likely improve in the near future, dischargers who are reporting regulatory compliance with current detection limits may not be in compliance when lower detection limits are achievable. OVSD (and likely other dischargers as well) have historically been required to report pollutant results with little regard to the detection limit achieved by the contract laboratory conducting the testing. This may have led to EPA's grossly under estimating the cost impact of the CTR. Detection limits of many priority pollutants identified in the CTR are actually lower than those achieved during recent special testing of OVSD's effluent to identify low pollutant levels. Therefore, the potential compliance costs to our commercial and residential dischargers could be significant, yet the Economic Analysis for the draft CTR could not estimate such costs. As a more reasonable alternative, OVSD recommends that a watershed approach be used to address these pollutants. OVSD's receiving water (the Ventura River) is currently managed using the watershed approach.

Response to: CTR-067-004b

In response to the comment that EPA should use a watershed approach to address CTR-based water quality standards, please see response to CTR-035-003.

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Comment ID: CTR-083-002  
Comment Author: Fairfield-Suisun Sewer Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: K Water Shed Approach  
References: Letter CTR-083 incorporates by reference letters CTR-035 and CTR-054  
Attachments? N  
CROSS REFERENCES

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Comment: \* The District supports EPA Headquarters' Watershed Approach Framework and NPDES Watershed Strategy. We believe the CTR should address the EPA Region IX strategy for implementing

this management approach for pollutants with attainability issues. This is particularly crucial when regulating bioaccumulative pollutants, such as mercury. Region IX's commitment to this approach will insure appropriate consideration is given to watershed management strategies by State agencies when implementing the CTR.

Response to: CTR-083-002

EPA acknowledges the commenter's support for the watershed management approach. However, in response to the comment that EPA address the watershed management approach in the CTR for pollutants with attainability problems, please see response to CTR-035-003. EPA continues to support the State's use of the watershed management approach where appropriate.

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Comment ID: CTRH-002-015

Comment Author: Lisa Ohlund

Document Type: Public Hearing

State of Origin: CA

Represented Org: Alliance of So. CA POTWs

Document Date: 09/18/97

Subject Matter Code: K Water Shed Approach

References:

Attachments? N

CROSS REFERENCES

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Comment: We suggest that EPA give consideration to using a watershed management approach to achieve the clean water goals for controlling toxic pollutant inputs into the environment rather than the traditional "command and control" approach, and that a strategy for doing this be included in the preamble to the rule. This is particularly appropriate for pollutants which come primarily from nontraditional sources and are difficult or very costly to control using end-of-pipe treatment.

Response to: CTRH-002-015

EPA agrees with the comment that the watershed management approach should be used for controlling toxic pollutants in certain situations. Please see response to CTR-035-003.

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Subject Matter Code: K-01 TMDLs

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Comment ID: CTR-004-006

Comment Author: South Bayside System Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: K-01 TMDLs

References:

Attachments? N

CROSS REFERENCES

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Comment: Available Regulatory Relief under the California Toxics Rule

The Preamble to the California Toxics Rule (CTR), and the rules accompanying Economic Analysis (EA), place a great deal of emphasis on the ability of dischargers to use alternative regulatory approaches to comply with CTR criteria if the cost of treatment technology was prohibitively expensive. For example, the EA assumes that, if the estimated annualized cost for removing a pollutant exceeded a cost trigger,(\*1) "dischargers would explore the use of alternative regulatory approaches to comply with CTR-based effluent limits." EA at. pg. 4 (emphasis added). Based on this assumption, no treatment cost was estimated for the facility. (\*2)

The types of alternative regulatory approaches assumed available for dischargers in California include phased total maximum daily loads (TMDLs), water quality standard variances, site-specific criteria, change in designated use, and alternative mixing zones. EA at pg. 4-5. The following sections will discuss each of EPA's proposed methods for regulatory relief and explain whether or not these methods can truly be used to provide relief from the CTR-based permit limits as anticipated by EPA. It should be noted that the actual language of the rule itself does not mention any of the methods of regulatory relief. Therefore, this analysis will be based solely upon the language contained in the Preamble to the CTR.

Total Maximum Daily Loads (TMDLS)

The majority of the discussion of TMDLs contained in the Preamble to the CTR is merely a reiteration of the requirements of the Clean Water Act (CWA) and the existing regulations. See CTR at pg. 42185-6; see accord 33 U.S.C. Section 1313(d)(1)(C) and 40 C.F.R. Section 130.7. However, the Preamble discussion also contains recommendations regarding the implementation of TMDLs that merit some review.

First, EPA recommends that, since the TMDL process can be significantly labor and data intensive, collaborative efforts to establish TMDLs on water quality limited water bodies should be pursued. EPA envisions that this collaborative effort by dischargers, the State, EPA, and other stakeholders, could distribute work and associated costs between the interested parties, as well as shorten the overall time necessary to complete the analyses. See CTR at pg. 42185-6. This language attempts to alter the current statutory and regulatory language requiring that States must perform TMDLS, which are then submitted for EPA approval. If EPA is now proposing to allow other entities or coalitions to be able to establish TMDLS, this authority must be placed in the language of the rule itself, if not in an amendment to the CWA.

Second, EPA recommends innovative alternatives to traditional "pounds per day" TMDLS. The regulations and EPA guidance reviewed regarding TMDLS did not mention whether TMDLS had to be established as "pounds per day." The regulations define of "load" as "an amount of matter, . . . that is introduced into a receiving water" (40 C.F.R. Section 130.2(c)) and discuss TMDLS in terms of either mass per time, toxicity, or other appropriate measure" (40 C.F.R. Section 130.2(I)). These definitions seem to be flexible enough to allow for EPA's recommended alternatives to "traditional pounds per day TMDLS."

A third recommendation pertained to effluent or pollutant trading. In the Preamble to the CTR, EPA encourages innovative approaches such as effluent trading as a method to attain and/or maintain water quality standards. The Preamble at page 42185 describes effluent trading as follows:

Effluent trading allows sources that can control pollutants beyond compliance with current requirements to sell or trade credits for its excess reduction to in other source unable to control its own pollutants is effectively or as efficiently. The goal of an effluent trading program is to achieve similar or improved environmental results in a more cost-effective manner than under current regulatory structures. EPA's most current policy on effluent trading is summarized in the "Policy Statement for Effluent Trading in Watersheds" which was issued in January of 1996 and which reiterates President Clinton's commitment to effluent trading as expressed in the March 16, 1995 report on "Reinventing Environmental Regulation." The Policy states that the "EPA will work cooperatively with key stakeholders to find sensible, innovative ways to meet water quality standards quicker and at less cost than traditional approaches alone." The policy outlines several different types of trades that may take place. These trades include but are not limited to the following; (1) Intra-plant trading between outfalls within one facility; (2) pretreatment trading between indirect industrial point sources that discharge to a POTW; (3) point to point source trading, point to nonpoint source trading, and nonpoint to nonpoint source trading.

The existing regulations and EPA guidance relating to TMDLS already contemplate some form of pollutant trading.<sup>(\*3)</sup> However, the regulations currently do not specifically allow the degree of trading outlined in the Preamble. To clarify that this is now EPA policy, EPA should propose language to that effect within the regulatory language itself.

The final recommendation EPA makes related to TMDLS addresses the use of interim permit limits when a TMDL/WLA/LA or other special study is underway but not completed. The Preamble gives guidance on how interim limits should be calculated. EPA states that "past performance and future uncertainty can be considered as factors in determining interim permit limits; however, permitting authorities may consider other factors, particularly factors concerning the water quality of the receiving water body and the overall goal to attain the water quality standard." EPA further states that it supports innovative ideas such as using specific method for determining interim limits and "trigger" concentrations above which corrective action would be necessary. Furthermore, EPA notes that the State, as the permitting authority, has broad discretion in determining how interim permit limits should be ascertained in different situations. CTR Preamble at pg. 42184-5. This language is helpful, but it should be placed into the rule so that it has the force of law and may be utilized as such.

As a Final note regarding the use of TMDLS as a form of regulatory relief, it should be noted that these of less restrictive effluent limitations based on TMDLS and interim limits is limited by the TMDL process itself as well as the antibacksliding provisions of the CWA. EPA guidance recognized these facts in its TMDL guidance with the following statement:

In developing a TMDL it is important to keep in mind certain constraints on the WLA [wasteload allocation] portion that are imposed by antibacksliding regulatory provisions. The WLA will normally

result in new or more stringent water quality-based limits than those contained in a previously issued permit. In a limited number of cases, however, it is conceivable that less stringent water quality-based limits could result. In these cases, permit limits must conform to the antibacksliding provisions contained in section 402(o) of the CWA. (\*4)

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(\*1) This cost trigger is \$200 per toxic pounds-equivalent for a facility under the low-end scenario, and \$500 per toxic pounds-equivalent for a category of dischargers under the high-end scenario, See EA at pg. 4.

(\*2) In addition, pollutant load reductions would not be calculated or credited for any pollutant for which an alternative regulatory approach was pursued. Id.

(\*3) See 40 C.F.R. Section 130.2(I) ("If Best Management Practices (BMPS) or other nonpoint source pollution controls make more stringent load allocations practicable, then wasteload allocations can be made less stringent. Thus, the TMDL process provides for nonpoint source control tradeoffs."); see also EPA, Guidance for Water Quality-based Decisions: The TMDL Process, EPA Doc. No. 440/4-91-001 at pg. 51 (April 1991).

(\*4) EPA, Guidance for Water Quality-based Decisions: The TMDL Process, EPA Doc. No. 440/4-91-001 at pg. 20 (April 1991) (Emphasis added)

Response to: CTR-004-006

EPA does not agree that a collaborative approach to TMDL development described in the preamble to the proposed CTR requires a change in statutory or regulatory language. Currently, the State's process for TMDL approval includes amendment of the affected Regional Board's Basin Plan, which requires approval by the State Water Resources Control Board and the Office of Administrative Law, prior to submittal to EPA. The collaborative approach which EPA supports does not allow any other entity besides the State to establish TMDLs. The basis for the TMDL (e.g. the technical work) can be performed by other entities. That technical work can then be submitted by the State to EPA as part of the supporting documentation of the State-established TMDL.

EPA agrees with the commentor that current Federal regulations provide for flexibility in the manner that TMDLs are expressed. The commentor asserts that regulations do not specifically allow the degree of trading outlined in the preamble to the proposed rule. The current regulations do not prohibit the trading described in the preamble. TMDLs can provide the necessary analytical framework to ensure that trades are equitable and do not result in the creation of "hot spots".

With respect to TMDLs as a form of regulatory relief, the commentor asserts that EPA guidance indicates that little relief can occur for the waste load allocation portion of the TMDL due to anti-backsliding provisions of section 402(o) of the Clean Water Act. EPA believes that section 303(d)(4) of the Clean Water Act specifically allows for less restrictive effluent limits as long as such limits are consistent with an approved TMDL. However, these issues concerning TMDLs are outside the scope of this rule, and the rules concerning TMDLs may change.

In response to the commentor's discussion concerning the different regulatory relief approaches that EPA discusses in its Economic Analysis, please see response to CTR-032-004.

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Comment ID: CTR-021-002d  
Comment Author: LeBoeuf, Lamb, Green & MacRae  
Document Type: Local Government  
State of Origin: CA  
Represented Org: City of Sunnyvale  
Document Date: 09/25/97  
Subject Matter Code: K-01 TMDLs  
References: Letter CTR-021 incorporates by reference letter CTR-035  
Attachments? Y  
CROSS REFERENCES G-04; C-24a; C-22; G-05; G-02

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Comment: Sunnyvale is very supportive of many fine concepts advanced in the proposed CTR, and we join with CASA/Tri-TAC in complimenting the Agency on its proposed positions with regard to such matters as: (a) the use of interim effluent limitations in NPDES permits during the pendency of TMDL and other special studies; (b) the allowance of water effects ratios in adjusting the criteria for metals without the necessity for additional rulemaking to establish site-specific objectives; (c) the use of the dissolved state for the metals criteria; (d) the use of cooperative, intergovernmental, and stakeholder-involved approaches towards the development of TMDLs;(e) the allowance of dilution for both chronic and acute pollutants; and (f) the allowance of compliance schedules in NPDES permits.

Response to: CTR-021-002d

EPA appreciates the commenter's support of EPA's preamble discussion concerning the State's use of cooperative approaches toward the development of TMDLs.

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Comment ID: CTR-034-012b  
Comment Author: SCAP  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: K-01 TMDLs  
References: Letter CTR-034 incorporates by reference letter CTR-035  
Attachments? N  
CROSS REFERENCES G-04

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Comment: \* SCAP supports EPA's discussion in the Preamble regarding the use of interim permit limits while Total Maximum Daily Loads.(TMDLs) and other special studies are being performed. We strongly urge EPA to support the use of the SWRCB Permitting Task Force's recommended approach for deriving interim permit limits.

Response to: CTR-034-012b

EPA appreciates the commenter's support of the discussion in the preamble concerning the State's use of interim permit limits while TMDLs or other special studies are being developed. EPA supports the State's consideration of the stakeholder Task Force recommendations to help deal with these issues.

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Comment ID: CTR-035-002g  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: K-01 TMDLs  
References:  
Attachments? N  
CROSS REFERENCES C-22; C-01a; C-08a; G-05; G-04; G-09; C-24a

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Comment: Second, we commend EPA for its inclusion in the CTR of several innovative and flexible regulatory approaches, such as metals criteria expressed as dissolved rather than total recoverable concentrations, and the revised human health criterion for mercury. In addition, in light of the issues surrounding the human health criteria for arsenic we support EPA's decision not to promulgate human health criteria at this time. With respect to implementation issues discussed in the Preamble, we support EPA's policies and guidance regarding the application of mixing zones and dilution credits. the use of interim permit limits while Total Maximum Daily Loads (TMDLs) and other special studies are being performed, and EPA's guidance to Regional Water Quality Control Boards (RWQCBs) that they may use any of the methods described in EPA's guidance document on the use of translators. We also support EPA's proposal to create a rebuttable presumption for Water Effects Ratios (WERs), allowing the RWQCBs and SWRCB to develop site-specific WERs that can be approved by EPA during the NPDES permit approval process. We believe that this approach will help facilitate the development of appropriate site-specific adjustments for metals criteria.

Response to: CTR-035-002g

EPA appreciates the commenter's support of the discussion in the preamble concerning the State's use of interim permit limits while TMDLs or other special studies are being developed.

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Comment ID: CTR-035-032a  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: K-01 TMDLs  
References:  
Attachments? N  
CROSS REFERENCES K-03

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Comment: C. Implementation Issues pp. 42184-42185 -- Total Maximum Daily Loads (TMDLs) We agree with EPA's statements in the Preamble in support of the recommendations of the Permitting and Compliance Issues Task Force regarding the benefits of collaborative approaches to developing TMDLs. We also endorse the State's and EPA's policy to allow innovative alternatives to traditional "pounds per day" TMDLs, and suggest that EPA expand this reference in the Preamble to include the concept of "quantifiable targets," under which TMDLs could be expressed as a mass loading, a concentration, a

percent reduction, an ecosystem improvement, or a degree of implementation of a control measure (such as a best management practice) (see SWRCB, 1995, Part VI).

EPA also encourages the use of innovative approaches such as effluent trading, within the TMDL framework. While we support the concept of effluent trading, we do have concerns about how EPA intends for it to be implemented. For instance, in comments submitted to EPA on September 6, 1996 on EPA's Draft Framework for Watershed-Based Trading (May 1996), we pointed out that the proposed framework was overly prescriptive and, as a result, would likely significantly restrict watershed-based trading in California. A few of the barriers to trading we identified in the draft framework include: provisions limiting the duration of trades to the five year term of NPDES permits; limitations on the effect of trades on existing effluent limits, compliance schedules or enforcement actions; discouragement of trading for toxic pollutants; and inequitable requirements for point sources to demonstrate a "reasonable assurance" that a trade will be successful. We recommend that EPA include language in the Preamble to the CTR emphasizing a flexible approach to both TMDLs and effluent trading; that trading is voluntary for all involved parties; and that interim limits will be placed in NPDES permits while the necessary ambient data are gathered and analytical tools are developed.

Response to: CTR-035-032a

EPA appreciates the commenter's support of the preamble discussion concerning the State's use of cooperative approaches toward the development of TMDLs and concerning the State's use of innovative alternatives to traditional "pounds per day" TMDLs. The commenter suggests that EPA expand the reference to include the concept of "quantifiable targets", under which "TMDLs could be expressed as a mass loading, a concentration, a percent reduction, an ecosystem improvement, or a degree of implementation of a control measure". Currently, TMDLs must be established to implement the applicable water quality standard and may be expressed in terms of mass per time, toxicity, or other appropriate measure (40 CFR 130.2(i)). Other appropriate measures include mass loading, concentration, or other indicators. The analysis supporting the TMDL must describe how the TMDL will result in the attainment of water quality standards; numeric targets are usually included in calculations to interpret applicable standards and provide the basis for TMDL calculations. Although implementation of control measures or best management practices (BMPs) will often be a component of the State's TMDL implementation plan, degree of BMP implementation will not suffice as a TMDL because this approach does not clearly demonstrate that water quality standards will be attained. Moreover, since the manner of BMP implementation often determines the effectiveness of the BMP (i.e. there is a high degree of uncertainty in the effectiveness of the BMP), the use of such a "quantifiable target" would require the use of a prohibitively large margin of safety and thus, may be infeasible. These issues, however, are beyond the scope of the CTR, and rules for TMDLs may change.

The commenter also recommends that EPA include language in the preamble emphasizing a flexible approach to both TMDLs and effluent trading; that trading is voluntary for all parties; and that interim limits will be placed in NPDES permits while the necessary data and analytical tools are developed. The preamble to the proposed rule summarized the available flexibility in both TMDLs and effluent trading, as well as supported the State's use of interim permit limits during the development of TMDLs. EPA agrees that effluent trading should be voluntary and believes that TMDLs can provide the analytical framework to support trades. However, as noted above, this is beyond the scope of the CTR, and rules for TMDLs may change.

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Comment ID: CTR-040-048

Comment Author: County of Sacramento Water Div  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: K-01 TMDLs  
References: Letter CTR-040 incorporates by reference letter CTR-027  
Attachments? Y  
**CROSS REFERENCES**

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Comment: The Preamble to the California Toxics Rule (CTR), and the rules accompanying Economic Analysis (EA), place a great deal of emphasis on the ability of dischargers to use alternative regulatory approaches to comply with CTR criteria if the cost of treatment technology was prohibitively expensive. For example, the EA assumes that, if the estimated annualized cost for removing a pollutant exceeded a cost trigger,(\*1) "dischargers would explore the use of alternative regulatory approaches to comply with CTR-based effluent limits." EA at.pg. 4 (emphasis added). Based on this assumption, no treatment cost was estimated for the facility.(\*2)

The types of alternative regulatory approaches assumed available for dischargers in California include phased total maximum daily loads (TMDLs), water quality standard variances, site-specific criteria, change in designated use, and alternative mixing zones. EA at pg. 4-5. The following sections will discuss each of EPA's proposed methods for regulatory relief and explain whether or not these methods can truly be used to provide relief from the CTR-based permit limits as anticipated by EPA. It should be noted that the actual language of the rule itself does not mention any of the methods of regulatory relief. Therefore, this analysis will be based solely upon the language contained in the Preamble to the CTR.

#### Total Maimum Daily Loads (TMDLs)

The majority of the discussion of TMDLs contained in the Preamble to the CTR is merely a reiteration of the requirements of the Clean Water Act (CWA) and the existing regulations. See CTR at pg. 42185-6; see accord 33 U.S.C. section 1313(d)(1)(C) and 40 C.F.R. section 130.7. However, the Preamble discussion also contains recommendations regarding the implementation of TMDLs that merit some review.

First, EPA recommends that, since the TMDL process can be significantly labor and data intensive, collaborative efforts to establish TMDLs on water quality limited water bodies should be pursued. EPA envisions that this collaborative effort by dischargers, the State, EPA, and other stakeholders, could distribute work and associated costs between the interested parties, as well as shorten the overall time necessary to complete the analysis. See CTR at pg. 42185-6. This language attempts to alter the current statutory and regulatory language requiring that States must perform TMDLs, which are then submitted for EPA approval. If EPA is now proposing to allow other entities or coalitions to be able to establish TMDLs, this authority must be placed in the language of the rule itself, if not in an amendment to the CWA.

Second, EPA recommends innovative alternatives to traditional "pounds per day" TMDLs. The regulations and EPA guidance reviewed regarding TMDLs did not mention whether TMDLs had to be established as "pounds per day." The regulations define of "load" as "an amount of matter . . . that is introduced into a receiving water" (40 C.F.R. section 130.2(e)) and discuss TMDLs in terms of either mass per time, toxicity, or other appropriate measure" (40 C.F.R. section 130.2(i)). These definitions

seem to be flexible enough to allow for EPA's recommended alternatives to "traditional pounds per day TMDLs."

A third recommendation pertained to effluent or pollutant trading. In the Preamble to the CTR, EPA encourages innovative approaches such as effluent trading as a method to attain and/or maintain water quality standards. The Preamble at page 42185 describes effluent trading as follows:

Effluent trading allows sources that can control pollutants beyond compliance with current requirements to sell or trade credits for its excess reduction to another source unable to control its own pollutants as effectively or as efficiently. The goal of an effluent trading program is to achieve similar or improved environmental results in a more cost-effective manner than under current regulatory structures. EPA's most current policy on effluent trading is summarized in the "Policy Statement for Effluent Trading in Watersheds" which was issued in January of 1996 and which reiterates President Clinton's commitment to effluent trading as expressed in the March 16, 1995 report on "Reinventing Environmental Regulation." The Policy states that "EPA will work cooperatively with key stakeholders to find sensible, innovative ways to meet water quality standards quicker and at less cost than traditional approaches alone." The policy outlines several different types of trades that may take place. These trades include but are not limited to the following: (1) Intra-plant trading between outfalls within one facility; (2) pretreatment trading between indirect industrial point sources that discharge to a POTW; (3) point to point source trading, point to nonpoint source trading, and nonpoint to nonpoint source trading.

The existing regulations and EPA guidance relating to TMDLs already contemplate some form of pollutant trading.<sup>(\*3)</sup> However, the regulations currently do not specifically allow the degree of trading outlined in the Preamble. To clarify that this is now EPA policy, EPA should propose language to that effect within the regulatory language itself.

The final recommendation EPA makes related to TMDLs addresses the use of interim permit limits when a TMDL/WLA/LA or other special study is underway but not completed. The Preamble gives guidance on how interim limits should be calculated. EPA states that "pastperformance and future uncertainty can be considered as factors in determining interim permit limits, however, permitting authorities may consider other factors, particularly factors concerning the water quality of the receiving water body and the overall goal to attain the water quality standard." EPA further states that it supports innovative ideas such as using specific method for determining interim limits and "trigger" concentrations above which corrective action would be necessary. Furthermore, EPA notes that the State, as the permitting authority, has broad discretion in determining how interim permit limits should be ascertained in different situations. CTR Preamble at pg. 42184-5. This language is helpful, but it should be placed into the rule so that it has the force of law and may be utilized as such.

As a final note regarding the use of TMDLs as a form of regulatory relief, it should be noted that the use of less restrictive effluent limitations based on TMDLs and interim limits is limited by the TMDL process itself as well as the antibacksliding provisions of the CWA. EPA guidance recognized these facts in its TMDL guidance with the following statement:

In developing a TMDL it is important to keep in mind certain constraints on the WLA [wasteload allocation] portion that are imposed by antibacksliding regulatory provisions. The WLA will normally result in new or more stringent water quality-based limits than those contained in a previously issued permit. In a limited number of cases, however, it is conceivable that less stringent water quality-based limits could result. In these cases, permit limits must conform to the antibacksliding provisions contained in section 402(o) of the CWA.<sup>(\*4)</sup>

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(\*1) This coat trigger is \$200 per toxic pounds-equivalent for a facility under the low-end scenario, and \$500 per toxic pounds-equivalent for a category of dischargers under the high-end scenario. See EA at pg. 4.

(\*2) In addition, pollutant load reductions were not calculated or credited for any pollutant for which an alternative regulatory approach was pursued. Id.

(\*3) See 40 C.F.R. section 130.2(i) ("If Best Management Practices (BMPs) or other nonpoint source pollution controls make more stringent load allocations practicable, then wasteload allocations can be made less stringent. Thus, the TMDL process provides for nonpoint source control tradeoffs."); see also EPA, Guidance for Water Quality-based Decisions: The TMDL Process, EPA Doc. No. 440/4-91-001 at pg. 51 (April 1991).

(\*4) EPA, Guidance for Water Quality-based Decisions: The TMDL Process, EPA Doc. No. 440/4-91-001 at pg. 20 (April 1991) (emphasis added).

Response to: CTR-040-048

In response to the commenter's discussion concerning TMDLs with respect to the collaborative approach, alternatives to traditional "pounds per day" TMDLs, effluent and/or pollutant trading, and the use of interim permit limits, see response to CTR-004-006.

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Comment ID: CTR-041-044

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: K-01 TMDLs

References:

Attachments? N

CROSS REFERENCES

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Comment: The Preamble to the California Toxics Rule (CTR), and the rules accompanying Economic Analysis (EA), place a great deal of emphasis on the ability of dischargers to use alternative regulatory approaches to comply with CTR criteria if the cost of treatment technology was prohibitively expensive. For example, the EA assumes that, if the estimated annualized cost for removing a pollutant exceeded a cost trigger,(\*1) "dischargers would explore the use of alternative regulatory approaches to comply with CTR-based effluent limits. EA at pg. 4(emphasis added). Based on this assumption, no treatment cost was estimated for the facility.(\*2)

The types of alternative regulatory approaches assumed available for dischargers in California include phased total maximum daily loads (TMDLs), water quality standard variances, site-specific criteria, change in designated use, and alternative mixing zones. EA at pg. 4-5. The following sections will discuss each of EPA's proposed methods for regulatory relief and explain whether or not these methods can truly be used to provide relief from the CTR-based permit limits as anticipated by EPA. It should be noted that the actual language of the rule itself does not mention any of the methods of regulatory relief.

Therefore, this analysis will be based solely upon the language contained in the Preamble to the CTR.

#### Total Maximum Daily Loads (TMDLs)

The majority of the discussion of TMDLs contained in the Preamble to the CTR is merely a reiteration of the requirements of the Clean Water Act (CWA) and the existing regulations. See CTR at pg. 42185-6; see also 33 U.S.C. section 1313(d)(1)(C) and 40 C.F.R. section 130.7. However, the Preamble discussion also contains recommendations regarding the implementation of TMDLs that merit some review.

First, EPA recommends that, since the TMDL process can be significantly labor and data intensive, collaborative efforts to establish TMDLs on water quality limited water bodies should be pursued. EPA envisions that this collaborative effort by dischargers, the State, EPA, and other stakeholders, could distribute work and associated costs between the interested parties, as well as shorten the overall time necessary to complete the analysis. See CTR at pg. 42185-6. This language attempts to alter the current statutory and regulatory language requiring that States must perform TMDLs, which are then submitted for EPA approval. If EPA is now proposing to allow other entities or coalitions to be able to establish TMDLs, this authority must be placed in the language of the rule itself, if not in an amendment to the CWA.

Second, EPA recommends innovative alternatives to traditional "pounds per day" TMDLs. The regulations and EPA guidance reviewed regarding TMDLs did not mention whether TMDLs had to be established as "pounds per day." The regulations define of "load" as "an amount of matter that is introduced into a receiving water (40 C.F.R. section 130.2(e)) and discuss TMDLs in terms of either mass per time, toxicity, or other appropriate measure" (40 C.F.R. section 130.2(i)). These definitions seem to be flexible enough to allow for EPA's recommended alternatives to "traditional pounds per day TMDLs."

A third recommendation pertained to effluent or pollutant trading. In the Preamble to the CTR, EPA encourages innovative approaches such as effluent trading as a method to attain and/or maintain water quality standards. The Preamble at page 42185 describes effluent trading as follows:

Effluent trading allows sources that can control pollutants beyond compliance with current requirements to sell or trade credits for its excess reduction to another source unable to control its own pollutants as effectively or as efficiently. The goal of an effluent trading program is to achieve similar or improved environmental results in a more cost-effective manner than under current regulatory structures. EPA's most current policy on effluent trading is summarized in the "Policy Statement for Effluent Trading in Watersheds" which was issued in January of 1996 and which reiterates President Clinton's commitment to effluent trading as expressed in the March 16, 1995 report on "Reinventing Environmental Regulation." The Policy states that "EPA will work cooperatively with key stakeholders to find sensible, innovative ways to meet water quality standards quicker and at less cost than traditional approaches alone." The policy outlines several different types of trades that may take place. These trades include but are not limited to the following: (1) Intra-plant trading between outfalls within one facility; (2) pretreatment trading between indirect industrial point sources that discharge to a POTW; (3) point to point source trading, point to nonpoint source trading, and nonpoint to nonpoint source trading.

The existing regulations and EPA guidance relating to TMDLs already contemplate some form of pollutant trading.<sup>(\*)3</sup> However, the regulations currently do not specifically allow the degree of trading outlined in the Preamble. To clarify that this is now EPA policy, EPA should propose language to that effect within the regulatory language itself.

The final recommendation EPA makes related to TMDLs addresses the use of interim permit limits when a TMDL/WLA/LA or other special study is underway but not completed. The Preamble gives guidance on how interim limits should be calculated. EPA states that "past performance and future uncertainty can be considered as factors in determining interim permit limits, however, permitting authorities may consider other factors, particularly factors concerning the water quality of the receiving water body and the overall goal to attain the water quality standard." EPA further states that it supports innovative ideas such as using specific method for determining interim limits and "trigger" concentrations above which corrective action would be necessary. Furthermore, EPA notes that the State, as the permitting authority, has broad discretion in determining how interim permit limits should be ascertained in different situations. CTR Preamble at pg, 42184-5. This language is helpful, but it should be placed into the rule so that it has the force of law and may be utilized as such.

As a final note regarding the use of TMDLs as a form of regulatory relief, it should be noted that the use of less restrictive effluent limitations based on TMDLs and interim limits is limited by the TMDL process itself as well as the antibacksliding provisions of the CWA. EPA guidance recognized these facts in its TMDL guidance with the following statement:

In developing a TMDL it is important to keep in mind certain constraints on the WLA [wasteload allocation] portion that are imposed by antibacksliding regulatory provisions. The WLA will normally result in new or more stringent water quality-based limits than those contained in a previously issued permit. In a limited number of cases, however, it is conceivable that less stringent water quality-based limits could result. In these cases, permit limits must conform to the antibacksliding provisions contained in section 402(o) of the CWA.(\*4)

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(\*1) This coat trigger is \$200 per toxic pounds-equivalent for a facility under the low-end scenario, and \$500 per toxic pounds-equivalent for a category of dischargers under the high-end scenario. See EA at pg. 4.

(\*2) In addition, pollutant load reductions were not calculated or credited for any pollutant for which an alternative regulatory approach was pursued. Id.

(\*3) See 40 C.F.R. section 130.2(i) ("If Best Management Practices (BMPs) or other nonpoint source pollution controls make more stringent load allocations practicable, then wasteload allocations can be made less stringent. Thus, the TMDL process provides for nonpoint source control tradeoffs."); see also EPA, Guidance for Water Quality-based Decisions: The TMDL Process, EPA Doc. No. 440/4-91-001 at pg. 51 (April 1991).

Response to: CTR-041-044

In response to the commenter's discussion concerning TMDLs with respect to the collaborative approach, alternatives to traditional "pounds per day" TMDLs, effluent and/or pollutant trading, and the use of interim permit limits, see response to CTR-004-006.

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Comment ID: CTR-044-039  
Comment Author: City of Woodland  
Document Type: Local Government

State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: K-01 TMDLs

References:

Attachments? N

CROSS REFERENCES

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Response to: CTR-044-039

In response to the commenter's discussion concerning TMDLs with respect to the collaborative approach, alternatives to traditional "pounds per day" TMDLs, effluent and/or pollutant trading, and the use of interim permit limits, see response to CTR-004-006.

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Comment ID: CTR-054-043

Comment Author: Bay Area Dischargers Associati

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: K-01 TMDLs

References:

Attachments? N

CROSS REFERENCES

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Response to: CTR-054-043

In response to the commenter's discussion concerning TMDLs with respect to the collaborative approach, alternatives to traditional "pounds per day" TMDLs, effluent and/or pollutant trading, and the use of interim permit limits, see response to CTR-004-006.

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Comment ID: CTR-057-010a  
Comment Author: City of Los Angeles  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: K-01 TMDLs  
References:

Attachments? N

CROSS REFERENCES G-07; C-24

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Comment: Implementation

Although the proposed Rule discusses implementation issues such as TMDLs, variances, SSOs, and interim permits, it lacks evidence of support for any of these provisions. We believe that this will have the effect of reducing the State's confidence or perceived authority in granting any of these provisions to individual POTWs. For example, Page 42186 of the CTR lists six criteria that must be used by the State to determine the non-attainability of a water quality standard; we are doubtful that any of these criteria would be strictly applicable to our facilities with respect to lindane and DDT. We believe CTR variance criteria should include economic considerations for specific discharger implementation efforts. Unless the EPA provides more support for these provisions, we fear that the State will either not grant us a legitimate variance or will waiver in its commitment to act at all.

Response to: CTR-057-010a

EPA disagrees with the comment that although the preamble discusses implementation issues, it lacks evidence of support for any of them. The CTR preamble section to the proposed rule entitled "Implementation" discusses EPA's general policy on TMDLs, variances, and interim permit limits. EPA's intention for including the discussions is to clearly state that it supports the State's appropriate use of the action as an implementation tool, not to discourage the use of the action in any way. EPA does not believe that its discussion in the preamble would discourage the State in any way, and in fact would facilitate the appropriate use of the provision.

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Comment ID: CTR-058-011

Comment Author: Western States Petroleum Assoc

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: K-01 TMDLs

References:

Attachments? Y

CROSS REFERENCES

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Comment: TMDLs. WSPA recognizes that the law requires the state to adopt TMDLs for those waters which fail water quality standards and are listed on the 303(d) list. WSPA supports the TMDL process based on the following approach:

\* Waters should only be listed after careful review of the standards and careful assessment of actual water quality. WSPA does not support the universal application of "independent applicability". In some cases independent applicability is appropriate but in many cases it is overkill and EPA should give states flexibility in applying it. \* For metals and many organics, the decision to list should be based on the bioavailable (e.g., dissolved) fraction, not total. \* A careful process of prioritization should be encouraged. Also, reasonable schedules for implementing TMDL programs must be established. EPA and the states should be moving expeditiously to set such schedules so that the courts do not take the decision-making process out of their hands. \* Today, nearly everybody recognizes that non-point sources

rather than point sources are the major problem for most impaired waters. EPA should supply additional tools to the states for dealing with nonpoint sources, and EPA should encourage the emphasis on those sources, whether point or nonpoint, which are the major source of the problem. \* Resolution of TMDLs into load and waste load allocations should be based on sound science. Allocations and permit limits should not be largely a political response to the perceived problem. \* The relative impact of more stringently regulating point sources should be considered in establishing a strategy. For example, if point sources are 10% of the problem, it may be inappropriate to call for a 50% reduction in their discharges if a 5% overall reduction will have no meaningful impact on improving the receiving water quality. WSPA believes that airborne deposition in some cases plays a significant role in water quality, and that regulating point sources in such scenarios is often unlikely to produce meaningful results. TMDLs should instead focus on situations where a real impact on receiving water quality can be made through regulation of dischargers (point or nonpoint).

Response to: CTR-058-011

The commenter, in discussing TMDLs, states that waters should only be listed under section 303(d) after a review of the water quality standards and an assessment of "actual water quality". Issues concerning TMDLs are outside the scope of the CTR, and rules concerning TMDLs may change. However, the State should regularly review applicable water quality standards, but EPA does not believe that such a review is a required as part of the decision to list a water body. With respect to the issue of "independent applicability", the statute and regulations require the State to list waters when water quality standards are not being met. In the case of numeric water quality standards, the State may be able to determine whether water quality standards are being met solely on the basis of ambient water column data. In the case of narrative standards, the State may need to consider other available physical, toxicological, and biological data.

It appears that the commenter believes that some 303(d) listing decisions have been based on "best professional judgement" with no supporting ambient data. Although professional judgment plays an important role in any water quality assessment, EPA agrees that decisions to list waters generally should be based on available physical, chemical, and biological data. The commenter and other interested stakeholders can make a substantial contribution to the collection of monitoring data to support the State's assessment of water quality.

The commenter also states that the decision to list should be based on the bioavailable (e.g. dissolved) fraction, not the total, of metals and many organics. As noted above, the State's decision to add a water body/pollutant to the 303(d) list is based on whether the applicable water quality standard is being exceeded. National guidance on 303(d) listing does not allow waters to be excluded from consideration based on the manner in which existing applicable standards are expressed or the fact that standards revisions are currently underway.

EPA agrees with the commenter that a careful process for prioritization and schedules for implementing the TMDL program should be established. The EPA- approved State guidelines for the 1998 303(d) list update provide for specific criteria to guide prioritization. The State will develop a schedule for completion of TMDLs for all 303(d) listed water bodies (see 1998 Clean Water Act 303(d) Listing Guidelines for California).

EPA agrees with the commenter that additional tools should be provided to the State to address nonpoint source pollution problems. EPA's "Clean Water Action Plan" provides a framework for coordination of Federal activities, especially as it relates to nonpoint source problems. Lastly, as noted above, TMDLs and issues concerning TMDLs are outside the scope of the CTR, and rules and policies concerning

TMDLs may change.

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Comment ID: CTR-086-001b

Comment Author: EOA, Inc.

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org: California Dent

Document Date: 09/26/97

Subject Matter Code: K-01 TMDLs

References: Letter CTR-086 incorporates by reference letter CTR-035

Attachments? N

**CROSS REFERENCES Q**

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Comment: CDA's primary concerns are with the potential for additional regulation of wastewater discharges from dental offices to POTWS. Several municipalities in the Bay Area, including the City of San Francisco, have informed CDA that dentist offices are considered a source of mercury discharges to municipal sewer systems, and under the Basin Plan will be subject to additional regulation when lower effluent limits are imposed in municipal NPDES permits. Yet, very little is known about the fate, transport, bioavailability and overall water quality impacts of amalgam related mercury.

CDA in cooperation with San Francisco, has developed a comprehensive program of pollution prevention practices (best management practices) for dental offices that has been distributed statewide and is in the process of being implemented. Yet efforts continue by municipalities in parts of the State, such as San Francisco Bay, to impose increasingly stringent and costly controls on dental offices. Within the current point source regulatory structure. POTWs that have mercury compliance problems, or perceive that they might have if the criteria become more stringent (e.g. through loss of dilution credit), are forced to continue to look "upstream" for additional sources to control, until such time, as recommended, as a more comprehensive watershed based approach is allowed.

CDA is a strong supporter of water quality and human health protection. CDA's primary goals in commenting on the draft CTR are to request that mercury criteria be based on sound science and that mercury regulation be implemented via a watershed management, phased TNML-type approach. CDA is particularly concerned that the CTR does not adequately assess the economic impacts on indirect dischargers nor the extent to which there will be measurable water quality benefits solely from adoption of the proposed mercury criteria for point sources.

#### Watershed Management Based Approach

Data show that there are elevated levels of mercury in San Francisco Bay waters, sediments, and some fish tissue. It is critical to have a better understanding of watershed-wide mercury inputs, fate, transport, and biogeochemical transformations affecting the San Francisco Bay food chain and human health, and the feasibility and costs of alternative control measures, before imposing potentially onerous control measures (through POTWS) on indirect dischargers, such as dentists, that may not provide measurable water quality or human health benefits.

Since POTWs are only responsible for contributing 1-10% of the toxics mass loading (including mercury) to San Francisco Bay (p. 7-7 EA) it makes economic sense to focus limited public resources on identification of larger and potentially more cost-effective sources to control. Since dentists likely

represent a very minor and declining fraction of the mercury loading to POTWs (due to implementation of BMPs and substitution of non-mercury based compounds for mercury containing dental amalgam), it makes even more public policy sense to fully evaluate and prioritize all sources and controls before pursuing additional control measures on indirect dischargers such as dentists. This needs to be conducted on a watershed basis, consistent with various EPA guidance including the August 1997 Robert Perciasepe TMDL Policy memorandum and the San Francisco Bay Regional Board's July 1997 Watershed Management Initiative Guidance.

Response to: CTR-086-001b

In response to the comments concerning the scientific basis of the mercury criteria, the TMDL approach for mercury in San Francisco Bay, and the economic assessment of impacts on indirect dischargers, see response to CTR-086-001a. In response to the comment concerning the watershed management approach to mercury in the Bay, the State has listed mercury in San Francisco Bay on its 303(d) list and has targeted completion of a TMDL for mercury in the foreseeable future.

EPA supports the State's decision and schedule to complete a detailed TMDL for mercury for the San Francisco Bay, and EPA agrees with the commenter that it makes good public policy to evaluate and prioritize sources of and controls for mercury coming into the Bay as soon as possible.

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Comment ID: CTR-089-001e

Comment Author: Las Virgenes Mncpl Water Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: K-01 TMDLs

References:

Attachments? N

CROSS REFERENCES C-22; C-01a; C-08a; G-05; G-02; G-09

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Comment: The draft California Toxics Rule (CTR) is clearly the product of substantial effort by USEPA staff, and we applaud this effort and its intent. On several issues of concern to public utilities, the CTR strikes a good balance between the need to promulgate standards and the need to base those standards on sound science. Examples include the use of dissolved concentrations rather than the total recoverable concentrations for metals, the deferral of human health criteria for arsenic until adequate information is available, and the revision of the human health criterion for mercury. We are also pleased with the CTR's guidance and flexibility, on mixing zones and dilution credits, total maximum daily loads (TMDLs), compliance schedules, and translators.

Response to: CTR-089-001e

EPA appreciates the commenter's support of EPA's preamble discussion of TMDL guidance and flexibility.

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Comment ID: CTR-090-010b

Comment Author: C&C of SF, Public Util. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: K-01 TMDLs

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES G-01

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Comment: We recommend that:

2. Include in the rule an implementation proposal which states that before a criteria is put into a permit there must first be: an assessment that the pollutant could reasonably interfere with the designated uses of the water; a comprehensive TMDL is done which includes all sources of pollutants to the water body; and a reasonable potential analysis is completed for point source dischargers. Only then, after all of these analyses are completed by the state or EPA should the criteria be converted to a permit limit with the appropriate implementation factors.

Response to: CTR-090-010b

EPA agrees with the commenter that a reasonable potential analysis as well as a determination that the pollutant could reasonably interfere with the designated uses of the water body before a permit limit is placed in a permit for a particular pollutant. The State completes these analyses before a permit limit is placed in a permit. EPA does not agree with the comment that a comprehensive TMDL must be completed on a particular water body for a particular pollutant before the permit limit is placed in a permit for that pollutant. The State is required to protect the beneficial uses of its waters, and thus is required to implement water quality-based effluent limits for particular pollutants which it has knowledge are contributing to preventing the achievement of beneficial uses. EPA agrees, however, that a TMDL for a pollutant may be necessary to comprehensively address a particular problem in a water body.

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Comment ID: CTR-092-005

Comment Author: City of San Jose, California

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: K-01 TMDLs

References: Letter CTR-092 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES

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Comment: Total Maximum Daily Loads (TMDL)

The City firmly endorses language in the preamble discussing the merits of a collaborative approach toward the establishment of TMDLs on water quality limited water bodies. The City agrees that this approach could better distribute costs and resources between regulators and the regulated community, as well as shorten the time necessary to complete the modeling analysis. The City supports innovative alternatives to the traditional TMDL approach of "pounds per day" and encourages the concept of

effluent trading as a method to attain or maintain water quality compliance. The City further encourages EPA to better define these and related programs in order to facilitate the TMDL process.

Response to: CTR-092-005

EPA appreciates the commenter's support of EPA's preamble discussions concerning the State's use of cooperative approaches toward the development of TMDLs, the State's use of innovative alternatives to the traditional "pounds per day" TMDL, and the concept of effluent trading. Additional guidance concerning these concepts can be found in EPA documents which discuss the TMDL process and the water management approach.

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Comment ID: CTRH-002-011d

Comment Author: Lisa Ohlund

Document Type: Public Hearing

State of Origin: CA

Represented Org: Alliance of So. CA POTWs

Document Date: 09/18/97

Subject Matter Code: K-01 TMDLs

References:

Attachments? N

CROSS REFERENCES G-02; G-04; C-22

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Comment: Now, I'd briefly like to touch on several issues of importance to SCAP members. In addition, we will be submitting written comments before the close of the public comment period.

I'd like to begin by mentioning our support for several provisions included in the draft CTR, and those include the provision authorizing the use of compliance schedules -- although we don't necessarily agree with the time period -- the expression of metals criteria as dissolved rather than totally recoverable, and discussion in the preamble supporting the use of interim limits in permits, while the total maximum daily loads and other special studies are being performed.

Response to: CTRH-002-011d

EPA appreciates the commenter's support of EPA's preamble discussion concerning the State's use of interim permit limits while TMDLs and other special studies are being completed.

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Subject Matter Code: K-02 Watershed Permitting

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Comment ID: CTR-090-023a

Comment Author: C&C of SF, Public Utl. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: K-02 Watershed Permitting

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

**CROSS REFERENCES Q**

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Comment: An Alternative Strategy to Implement the CTR - The CTR will likely result in massive public and private expenditures without yielding measurable or significant environmental benefits. Costs can be significantly reduced with regulatory flexibility and the cost analysis assumes that regulatory relief will be forthcoming when costs become excessive. However, nothing in the preamble nor anything in the State's implementation plan indicates a willingness to provide regulatory relief. On the contrary, the draft rule establishes an unusually cumbersome variance procedure while the State's draft proposal sets out very conservative procedures for WQBELs and waste load allocations (WLAs).

For these reasons, we recommend a go slow approach to both promulgating and implementing the CTR for those toxicants where the best evidence indicates that non-permitted sources are the predominant sources. This approach would:

1. Use the concept of temporary standards based on liberal assumptions such as use of a CRF of 10E-4 or 10E-4.5 until such time that a) problems in tissue concentrations are established; and b) loadings are established within the watershed.
2. Require permitted sources, including storm water sources to thoroughly characterize their discharges for the watershed specific problem contaminants.
3. Require permitted sources including storm water that discharge nontrivial amounts of problem toxicants to participate in or financially support ambient monitoring programs.
4. Require permitted sources including storm water sources, to undertake all reasonable source control efforts for any problem toxicants in their discharge.

The above efforts will continue through the development of Watershed based control measures, including TMDLs where required. For complex watershed the TMDL process could be lengthy, up to 10 years or more.

Such approaches were discussed in the preamble of the Great Lakes Initiative (589 FR 72, April 16, 1993), and are further discussed in a September 10, 1997 EPA HQ draft memorandum "A Watershed Approach for the Achievement of Water Quality Objectives." (Attachment 1) The temporary limits approach would also obviate the massive administrative burdens contained in the proposed variance procedures.

Response to: CTR-090-023a

EPA disagrees with the comment that the CTR will likely result in massive public and private expenditures without yielding significant environmental benefits. The CTR establishes water quality criteria for priority toxic pollutants; these criteria, combined with State adopted beneficial uses, will

create badly needed ambient water quality standards for California's surface waters including fresh and estuarine waters. The State then must implement these standards into its various water quality control programs, including the Federally mandated NPDES permit program. EPA agrees with the comment that costs of implementation of water quality standards into the NPDES permit program may be reduced with more flexible procedures. EPA described several methods in the preamble to the CTR that are available to provide flexibility in the NPDES permit program. EPA does not agree that these methods are cumbersome. The variance procedure outlined in the preamble may be considered somewhat complex, but the procedure does provide relief to those who are willing to undertake the analyses to show its applicability to a particular situation.

EPA appreciates the detailed comment concerning an alternative strategy for implementing CTR-based water quality standards in California. However, the State has the responsibility of implementing the CTR-based standards. Thus, the alternative implementation concepts described in the comment should be considered by the State in its adoption of the statewide implementation plan. For example, the commenter suggests that temporary standards based on liberal assumptions be used until loadings are established in the watershed; that permitted sources thoroughly characterize their discharges for specific problem contaminants; that permitted sources of problem pollutants participate or financially support ambient monitoring programs, and undertake source control efforts. The commenter's suggestions should be considered by the State in its implementation of water quality standards programs.

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Subject Matter Code: K-03 Watershed/Effluent Trading

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Comment ID: CTR-035-032b

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: K-03 Watershed/Effluent Trading

References:

Attachments? N

CROSS REFERENCES K-01

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Comment: pp. 42184-42185 -- Total Maximum Daily Loads (TMDLs) We agree with EPA's statements in the Preamble in support of the recommendations of the Permitting and Compliance Issues Task Force regarding the benefits of collaborative approaches to developing TMDLs. We also endorse the State's and EPA's policy to allow innovative alternatives to traditional "pounds per day" TMDLs, and suggest that EPA expand this reference in the Preamble to include the concept of "quantifiable targets," under which TMDLs could be expressed as a mass loading, a concentration, a percent reduction, an ecosystem improvement, or a degree of implementation of a control measure (such as a best management practice) (see SWRCB, 1995, Part VI).

EPA also encourages the use of innovative approaches such as effluent trading, within the TMDL framework. While we support the concept of effluent trading, we do have concerns about how EPA intends for it to be implemented. For instance, in comments submitted to EPA on September 6, 1996 on EPA's Draft Framework for Watershed-Based Trading (May 1996), we pointed out that the proposed framework was overly prescriptive and, as a result, would likely significantly restrict watershed-based trading in California. A few of the barriers to trading we identified in the draft framework include: provisions limiting the duration of trades to the five year term of NPDES permits; limitations on the effect of trades on existing effluent limits, compliance schedules or enforcement actions; discouragement of trading for toxic pollutants; and inequitable requirements for point sources to demonstrate a "reasonable assurance" that a trade will be successful. We recommend that EPA include language in the Preamble to the CTR emphasizing a flexible approach to both TMDLs and effluent trading; that trading is voluntary for all involved parties; and that interim limits will be placed in NPDES permits while the necessary ambient data are gathered and analytical tools are developed.

Response to: CTR-035-032b

This comment was fully answered under CTR-035-032a.

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Comment ID: CTR-061-016

Comment Author: G. Fred Lee & Associates

Document Type: Academia

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: K-03 Watershed/Effluent Trading

References:

Attachments? Y

CROSS REFERENCES

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Comment: Page 42185, second column, first paragraph, discusses effluent trading issues. It is important in effluent trading to properly incorporate aquatic chemistry and toxicology into developing the trade arrangements. This issue is discussed in papers on my web site.

Response to: CTR-061-016

EPA agrees with the comment that it is important in effluent trading to properly incorporate aquatic chemistry and toxicology in developing trade arrangements. EPA, in its Draft Framework for Watershed-Based Trading (USEPA, May 1996), states that pollutant chemistry must be reviewed before appropriate trading arrangements can be completed. EPA contemplates that such analyses will be conducted before the State approves any effluent trading arrangements.

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Comment ID: CTR-086-004f

Comment Author: EOA, Inc.

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org: California Dent

Document Date: 09/26/97

Subject Matter Code: K-03 Watershed/Effluent Trading

References: Letter CTR-086 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES G-01

C-22

G-09

C-24a

C-24

G-04

G-05

G-02

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Comment: Regulatory Flexibility and Relief

CDA supports language in the CTR Preamble that references and endorses recommendations of the State Task Forces including in part the use of.

\* reasonable potential analyses \* dissolved metals criteria \* translators \* water effects ratios \* site specific objectives \* innovative TMDL processes such as effluent trading \* performance based interim limits \* chronic and acute mixing zones, and \* compliance schedules in NPDES permits.

Response to: CTR-086-004f

EPA appreciates the commenter's support of EPA's preamble discussion concerning the State's use of innovative TMDL processes including effluent trading.

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Comment ID: CTRH-001-057a  
Comment Author: Dave Tucker  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: San Jose Env. Serv. Dept.  
Document Date: 09/17/97  
Subject Matter Code: K-03 Watershed/Effluent Trading

References:

Attachments? N

CROSS REFERENCES C-24a

G-04

G-07

G-09

C-22

G-05

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Comment: Some of the flexibility that the City highly supports is the water effect ratio investigations to adjust statewide criteria to site-specific conditions; the interim limits concept while special studies are being conducted by the dischargers and other entities; a variance procedure to allow dischargers to achieve progress toward effluent limit attainment without violating applicable water quality standards; dissolved criteria for metals to reflect the toxicological conditions; translators to adjust dissolved criteria to total permit limitations; trading programs to attain and maintain water quality; and a mixing zone that reflects true instream pollutant conditions and that protects beneficial uses.

Response to: CTRH-001-057a

EPA appreciates the commenter's support of EPA's preamble discussion concerning the State's use of effluent trading programs to attain and maintain water quality.

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Subject Matter Code: L Anti-Backsliding

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Comment ID: CTR-030-002  
Comment Author: Utility Water Act Group  
Document Type: Trade Org./Assoc.  
State of Origin: DC  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: L Anti-Backsliding  
References:  
Attachments? Y

**CROSS REFERENCES**

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Comment: B. UWAG Strongly Supports EPA's Position on the Application of Antibacksliding During Compliance Periods

UWAG applauds the Agency's decision to recognize that the antibacksliding provisions of section 402(o) of the Clean Water Act "do not apply to revisions to effluent limitations made before the scheduled date of compliance for those limitations." 62 Fed. Reg. at 42,189, col. 2. Permittees should not be subject to antibacksliding provisions until the limits in question come into force at the expiration of the compliance schedule.

Response to: CTR-030-002

EPA acknowledges this support and notes that its position regarding the application of Clean Water Act antibacksliding provisions in the CTR remains unchanged from that of the proposed rule.

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Comment ID: CTR-060-003  
Comment Author: San Diego Gas and Electric  
Document Type: Electric Utility  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: L Anti-Backsliding  
References:  
Attachments? N

**CROSS REFERENCES**

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Comment: PROVISIONS SDG&E SUPPORTS

EPA has included in the proposed CTR provisions which are reasonable and with which SDG&E supports. These include:

Anti-backsliding during interim limits

The preamble states that the anti-backsliding requirements of CWA Section 402(0) do not apply to revisions to effluent limitations made before the scheduled date of compliance for those limitations (see

62 Fed. Reg. at 42188, Col. 2). SDG&E supports EPA's interpretation.

Response to: CTR-060-003

EPA acknowledges this support and notes that its position regarding the application of Clean Water Act antibacksliding provisions in the CTR remains unchanged from that of the proposed rule.

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Subject Matter Code: M Re-Open Comment Period

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Comment ID: CTR-005-010  
Comment Author: Novato Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/23/97  
Subject Matter Code: M Re-Open Comment Period  
References:  
Attachments? Y

**CROSS REFERENCES**

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Comment: 9. EPA should modify the CTR to reflect these and other comments and then repropose the rule. The above concerns are fundamental and the recommended modifications necessary to comply with applicable laws and regulations are substantial. For these reasons, the District recommends that EPA modify the rule to account for these and other comments and then re-propose the rule.

Again, the District appreciates the opportunity to comment on the proposed rule. Please contact me if you have any questions or if you need additional information

Sincerely,

Thomas S. Selfridge Deputy Manager-Engineer

Response to: CTR-005-010

In response to the comment to re-propose and re-open the public comment period based on the commenter's comments, EPA has responded substantively to the comments elsewhere in this comment response document. EPA has determined that none of the changes EPA has made warrants re-proposing and re-opening the comment period.

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Comment ID: CTR-013-009  
Comment Author: County of Los Angeles  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: M Re-Open Comment Period  
References: Letter CTR-013 incorporates by reference letter CTR-027

Attachments? N

**CROSS REFERENCES**

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Comment: In addition we would like to emphasize the followin concerns which greatly impact the Los Angeles County Stormwater Program:

9. The rule should not be adopted as proposed. It should be revised and then re-proposed. The above comments and concerns are fundamental and the recommended modifications are necessary for MS4s to achieve compliance with the proposed water quality criteria. We recommend that the USEPA modify the rule to account for the above comments and other comments received from other MS4 dischargers and then redistribute the rule for further review and comment.

Thank you, again for this opportunity. If you have any questions, or would like to discuss these comments or issues further, please contact Gary Hildebrand at (626) 458-5948, Monday through Thursday, 7:00 a.m. to 5:30 p.m.

Response to: CTR-013-009

In response to the comment requesting that EPA re-propose and re-open the public comment period, please refer to response to CTR-005-010.

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Comment ID: CTR-027-013a  
Comment Author: California SWQTF  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: M Re-Open Comment Period  
References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040  
Attachments? N  
CROSS REFERENCES O

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Comment: OFFER OF ASSISTANCE

We appreciate the opportunity to provide comments to the proposed rule. Overall, we believe the rule should not be adopted as proposed. We would recommend that USEPA modify the rule and redistribute the rule for further review and comment.

During the development of the proposed rule, USEPA failed to meet with the California Stormwater Task Force or any other California group of MS4 dischargers to discuss the propose rule. We believe such a meeting would have been very beneficial for USEPA and the MS4 dischargers. We extend an offer to meet with EPA and other interested parties to resolve the above issues, and other significant issues prior to finalizing the rule.

Thank you again for this opportunity, if you have any questions or would like to discuss these comments or issues further please contact me at (510) 670-5563.

Response to: CTR-027-013a

In response to the comment requesting that EPA re-propose and re-open the public comment period, please refer to response to CTR-005-010. EPA was receptive to stakeholder issues concerning the CTR, during its development. For example, EPA sent out a newsletter to all stakeholders inviting discussion, including the storm water interest groups, during the development of the CTR; EPA also attended all of the State task force groups concerning the State's proposed implementation plan and was available for

discussion of issues at those meetings. EPA subsequently met with several stakeholder groups during the development of the CTR. Stakeholders concerned with storm water did not approach EPA during this time. Since the time the CTR was proposed, to ensure impartiality, EPA has limited its involvement with all stakeholder groups who wish to solely discuss the CTR and its finalization. Stakeholders concerned with storm water issues have approached EPA subsequent to the CTR proposal, and EPA has met with them to discuss permit and compliance issues. EPA is available to meet with you further concerning permits and compliance issues.

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Comment ID: CTR-031-010  
Comment Author: Fresno Metro. Flood Ctrl Dist.  
Document Type: Flood Ctrl. District  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: M Re-Open Comment Period  
References: Letter CTR-031 incorporates by reference CTR-027  
Attachments? N  
**CROSS REFERENCES**

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Comment: Above all, the District urges the EPA to: 1) incorporate language consistent with CWA section 402(p) into the proposed CTR, and 2) circulate the redrafted rule for further review and comment. This will also provide for review by those concerned to ensure that the proposed CTR when joined with the proposed State Plan does not lead to further inconsistencies.

Response to: CTR-031-010

In response to the comment requesting that EPA re-propose and re-open the public comment period, please refer to response to CTR-005-010.

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Comment ID: CTR-034-017  
Comment Author: SCAP  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: M Re-Open Comment Period  
References: Letter CTR-034 incorporates by reference letter CTR-035  
Attachments? N  
**CROSS REFERENCES**

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Comment: Again, we appreciate the opportunity to comment on the proposed California Toxics Rule. Due to the significant nature of the changes proposed, we request that EPA re-propose the CTR for public review and comment. Thank you for your consideration of our comments.

Response to: CTR-034-017

In response to the comment requesting that EPA re-propose and re-open the public comment period, please refer to response to CTR-005-010.

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Comment ID: CTR-035-011b  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: M Re-Open Comment Period  
References:  
Attachments? N  
CROSS REFERENCES E-01u

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Comment: EPA's Economic Analysis is important not only for EPA's rulemaking, but for the SWRCB's promulgation of the State's Implementation Policy. Without significant improvements, we do not believe that EPA's Economic Analysis would comply with the requirements of the state Porter-Cologne Act if used by the SWRCB to support the State Proposal. We propose that EPA and the SWRCB undertake a collaborative process with interested members of the public to revise the Economic Analysis, based on methodologies and assumptions Jointly agreed 91 upon. Such a process was recommended by the Economic Considerations Task Force convened by the SWRCB in 1995, based on the process used in the Bay-Delta process. Guidelines for embarking on a collaborative process were proposed in the Task Force Report (SWRCB, 1995, Section VIII). We believe that this process could result in a mutually acceptable and defensible analysis that both EPA and the SWRCB could use to satisfy their respective rulemaking requirements for economic analysis.

Based on the extensiveness of the modifications we believe EPA should make to both the proposed rule and the accompanying Economic Analysis, we request that EPA re-propose the rule for public review and comment before publishing the CTR as a final rule.

Response to: CTR-035-011b

In response to the comment requesting that EPA re-propose and re-open the public comment period, please refer to response to CTR-005-010.

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Comment ID: CTR-038-013  
Comment Author: Sonoma County Water Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: M Re-Open Comment Period  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: 12. EPA should modify the CTR to reflect these and other comments and then re-propose the rule. The above concerns are fundamental and the recommended modifications necessary to comply with applicable laws and regulations are substantial. For these reasons, the District recommends that EPA modify the rule to account for these and other comments and then repropose the rule.

Response to: CTR-038-013

In response to the comment requesting that EPA re-propose and re-open the public comment period, please refer to response to CTR-005-010.

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Comment ID: CTR-043-011

Comment Author: City of Vacaville

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: M Re-Open Comment Period

References:

Attachments? Y

CROSS REFERENCES

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Comment: 11. EPA should modify the CTR to reflect these and other comments and then repropose the rule. The above concerns are fundamental and the recommended modifications necessary to comply with applicable laws and regulations are substantial. For these reasons, the City recommends that EPA modify the rule to account for these and other comments and then repropose the rule.

Response to: CTR-043-011

In response to the comment requesting that EPA re-propose and re-open the public comment period, please refer to response to CTR-005-010.

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Comment ID: CTR-044-012

Comment Author: City of Woodland

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: M Re-Open Comment Period

References:

Attachments? Y

CROSS REFERENCES

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Comment: We have reviewed the proposed CTR and offer the following comments:

11. EPA should modify the CTR to reflect these and other comments and then repropose the rule. The above concerns are fundamental and the recommended modifications necessary to comply with

applicable laws and regulations are substantial. For these reasons, the City recommends that EPA modify the rule to account for these and other comments and then re-propose the rule.

Response to: CTR-044-012

In response to the comment requesting that EPA re-propose and re-open the public comment period, please refer to response to CTR-005-010.

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Comment ID: CTR-052-022

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: M Re-Open Comment Period

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

**CROSS REFERENCES**

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Comment: C. RECOMMENDATIONS FOR MODIFICATIONS TO THE CTR AND EA

EPA should modify the CTR and EA to reflect these and other comments and then re-propose the rule. The concerns cited by the Authority and other POTW organizations are genuine, and the recommended modifications necessary to resolve cost and attainability issues, as well as to insure EPA's compliance with applicable laws and regulations.

Response to: CTR-052-022

In response to the comment requesting that EPA re-propose and re-open the public comment period, please refer to response to CTR-005-010.

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Comment ID: CTR-053-001

Comment Author: Heal the Bay

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: M Re-Open Comment Period

References: Letter CTR-053 incorporates by reference letter 6 and the comments on Dioxin, copper, and the compliance schedule from letter CTR-002

Attachments? N

**CROSS REFERENCES**

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Comment: The State of California has been without an ISW/EB&E Plan for too long because of administrative process and litigation delays. It is imperative for the protection and enhancement of the beneficial uses of the receiving waters of the State that these plans be implemented as soon as possible.

Response to: CTR-053-001

In response to the comment requesting that the State implement its new statewide water quality plans as soon as possible, EPA agrees with the comment. However, the State must comply with its administrative process requirements which take time. EPA believes the State is making progress and moving toward finalizing its implementation plans.

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Comment ID: CTR-054-016  
Comment Author: Bay Area Dischargers Assoc.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: M Re-Open Comment Period  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: EPA should modify the CTR to reflect these and other comments and then repropose the rule. The above concerns are fundamental and the recommended modifications necessary to comply with applicable laws and regulations are substantial. For these reasons, BADA recommends that EPA modify the rule and its economic analysis to account for these and other comments and then re-propose the rule.

Response to: CTR-054-016

In response to the comment requesting that EPA re-propose and re-open the public comment period, please refer to response to CTR-005-010.

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Comment ID: CTR-059-004b  
Comment Author: Los Angeles County Sanit. Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: M Re-Open Comment Period  
References: Letter CTR-059 incorporates by reference letter CTR-035  
Attachments? Y  
CROSS REFERENCES E-01c

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Comment: As others have commented, we also encourage EPA to build on its efforts over the past year to coordinate with the State Water Resource Control Board (SWRCB). In particular, we recommend that in the future the two agencies take such steps as the use of simultaneous comment periods, joint preparation of the economic analysis, and joint final promulgation, much as the "CAL-FED" agencies are doing. Simultaneous comment periods would greatly facilitate review by the public. Development of a joint economic analysis would greatly reduce the time and resources expended by the two regulatory agencies, as well as by stakeholders. Most importantly, EPA and the SWRCB should adopt the CTR and the

State's Implementation Policy at the same time. This will eliminate uncertainties for permit writers and the regulated community as to how the CTR should be implemented, and encourage greater statewide consistency in the implementation of the CTR.

Response to: CTR-059-004b

In response to the comment requesting that EPA re-propose and re-open the public comment period, please refer to response to CTR-005-010. In response to the comment that EPA and the State should jointly prepare an economic analysis and jointly finalize the CTR water quality criteria and the State implementation plan, EPA is proposing criteria and the State is proposing an implementation plan so that the State will have a comprehensive water quality control program in place as soon as possible. EPA and the State have coordinated on the criteria and implementation plan so that EPA believes the two phases of the program will work well together. However, it is more efficient for each agency to move forward with its part, to complete each phase as soon as possible.

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Comment ID: CTR-059-005

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: M Re-Open Comment Period

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES

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Comment: Finally, due to the extensive nature of the proposed changes to the rule and the economic analysis, we request that EPA re-publish the CTR and economic analysis for public comment before finalizing the regulation.

Response to: CTR-059-005

In response to the comment requesting that EPA re-propose and re-open the public comment period, please refer to response to CTR-005-010.

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Comment ID: CTR-067-007

Comment Author: Ojai Valley Sanitary District

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: M Re-Open Comment Period

References:

Attachments? N

CROSS REFERENCES R

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Comment: Based on these issues, OVSD strongly urges EPA to revise its Economic Analysis, and recommend that EPA and the SWRCB work together with stakeholders to develop a revised approach that is mutually acceptable. Due to the significant nature of the changes proposed, OVSD requests EPA re-propose the CTR for public review and comment. We appreciate the opportunity to comment on the proposed CTR, as well as your consideration of our comments.

Response to: CTR-067-007

In response to the comment requesting that EPA re-propose and re-open the public comment period, please refer to response to CTR-005-010. In response to the comment that EPA work together to develop a revised approach, EPA did not substantially revise the CTR and thus, re-proposal is not warranted.

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Subject Matter Code: O Offer of Assistance/Review

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Comment ID: CTR-027-013b

Comment Author: California SWQTF

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: O Offer of Assistance/Review

References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040

Attachments? N

CROSS REFERENCES M

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Comment: OFFER OF ASSISTANCE

We appreciate the opportunity to provide comments to the proposed rule. Overall, we believe the rule should not be adopted as proposed. We would recommend that USEPA modify the rule and redistribute the rule for further review and comment.

During the development of the proposed rule, USEPA failed to meet with the California Stormwater Task Force or any other California group of MS4 dischargers to discuss the proposed rule. We believe such a meeting would have been very beneficial for USEPA and the MS4 dischargers. We extend an offer to meet with EPA and other interested parties to resolve the above issues, and other significant issues prior to finalizing the rule.

Thank you again for this opportunity, if you have any questions or would like to discuss these comments or issues further please contact me at (510) 670-5563.

Response to: CTR-027-013b

EPA did not meet with the commenter during the development of the California Toxics Rule because the commenter did not ask for a meeting to discuss the rule during this time period. EPA did hold a public meeting on August 2, 1995 which provided an opportunity for all groups, including storm water dischargers, to ask questions or express concerns about the CTR. Since the proposal and subsequent to the commenter's request to meet with EPA, EPA did meet with the California Water Quality Task Force to discuss a related issue to CTR; language in current stormwater permits regarding water quality standards. In addition, EPA held two public hearings, September 18, 1997 in San Francisco and September 19, 1997 in Los Angeles. EPA believes it does understand the concerns of the California Water Quality Task Force and MS4 dischargers as expressed through its written and verbal comments on the CTR. EPA addresses these comments elsewhere in the response to comment document for the rule.

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Comment ID: CTR-040-001

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: O Offer of Assistance/Review

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

#### CROSS REFERENCES

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Comment: OUR PROGRAM

The County is one of four agencies comprising the Sacramento Stormwater Management Program. The other three agencies are the cities of Sacramento, Folsom, and Galt. The Sacramento Stormwater Management Program began in June 1990. Since its inception, the Sacramento Stormwater Program has developed into a high quality stormwater program which is being recognized this year by EPA through its first place award to both the County and City of Sacramento in EPA's outstanding Stormwater Management Program, municipal category.

#### OUR INTERESTS

The comments that follow are based on our interests that the Rule, the Preamble, and the Rule's accompanying analyses accomplish the following goals:

1. Allow municipal stormwater programs to continue their focus on reduction of pollutants to the maximum extent practicable.
2. Satisfy the requirements of applicable Federal laws and regulations.
3. Provide incentives for reasonable actions to address toxic pollutants from all sources within a watershed.

We believe these interests are compatible with those of EPA and other interested parties, and we offer to work with all parties to craft a Rule that satisfies these interests.

Response to: CTR-040-001

EPA believes the CTR is consistent with the goals stated in the comments.

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Comment ID: CTR-040-021

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: O Offer of Assistance/Review

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

#### CROSS REFERENCES

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Comment: OFFER TO ASSIST

Again, we appreciate the opportunity to comment on the proposed Rule. We extend an offer to sit down with EPA and other interested parties to resolve these and other significant issues prior to finalizing the

Rule.

Response to: CTR-040-021

See response to CTR-040-001.

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Subject Matter Code: P Whole Effluent Toxicity

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Comment ID: CTR-057-008  
Comment Author: City of Los Angeles  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: P Whole Effluent Toxicity  
References:

Attachments? N

CROSS REFERENCES

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Comment: Toxicity

While we acknowledge the need for improved sampling and testing protocols for acute and chronic toxicity, we are concerned about the extent of EPA's awareness with respect to test variability and test acceptability criteria. The effects of test organism age and health and variations in effluent quality over the testing period introduce many variables into toxicity assessment results; these variations can only be accounted for through statistical methods of data analysis. Consequently, we believe that the EPA should provide for the use of narrative toxicity criteria when site-specific conditions merit them. Similarly, the use of non-local test species should be viewed with caution since this introduces another variable into the test results. Narrative criteria can also be justified in view of the need for additional toxicity research on standard test species with respect to type of pollutant, especially chlorination by-products and ammonia.

Response to: CTR-057-008

The CTR did not propose either narrative or numeric toxicity criteria, and therefore, issues related to WET are outside the scope of this rule.

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Comment ID: CTR-065-006a  
Comment Author: Environmental Health Coalition  
Document Type: Environmental Group  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: P Whole Effluent Toxicity  
References:

Attachments? N

CROSS REFERENCES C-20

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Comment: TOXICITY TESTING

EHC strongly supports inclusion of acute and chronic toxicity tests. However, it is very important that chlorine and ammonia be added to the list of constituents.

Response to: CTR-065-006a

With respect to your comment on the inclusion of acute and chronic toxicity testing, the CTR did not propose either narrative or numeric toxicity testing criteria. As required by Section 303(c)(2)(B), the CTR proposed numeric water quality criteria for priority toxic pollutants, as identified at CWA section 307(a) and for which the Agency has issued CWA section 304(a) criteria guidance. Whole effluent toxicity limits are not within the ambit of section 303(c)(2)(b) and thus are outside the scope of this action.

EPA agrees that acute and chronic toxicity testing is an important component of the water quality-based toxics control program. In EPA's water quality standards regulations, 40 CFR 131.11, EPA encourages states to adopt both numeric and narrative criteria. Narrative criteria can be the basis for limiting toxicity in waste discharges where a specific pollutant can be identified as causing or contributing to the toxicity but there are no numeric criteria in the state standards, or where toxicity cannot be traced to a particular pollutant. Section 131.11(a)(2) requires states to develop implementation procedures to explain how it will ensure the narrative toxic criteria are met.

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Subject Matter Code: Q Nonpoint Sources

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Comment ID: CTR-086-001a

Comment Author: EOA, Inc.

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org: California Dent

Document Date: 09/26/97

Subject Matter Code: Q Nonpoint Sources

References: Letter CTR-086 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES K-01

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Comment: CDA's primary concerns are with the potential for additional regulation of wastewater discharges from dental offices to POTWS. Several municipalities in the Bay Area, including the City of San Francisco, have informed CDA that dentist offices are considered a source of mercury discharges to municipal sewer systems, and under the Basin Plan will be subject to additional regulation when lower effluent limits are imposed in municipal NPDES permits. Yet, very little is known about the fate, transport, bioavailability and overall water quality impacts of amalgam related mercury.

CDA in cooperation with San Francisco, has developed a comprehensive program of pollution prevention practices (best management practices) for dental offices that has been distributed statewide and is in the process of being implemented. Yet efforts continue by municipalities in parts of the State, such as San Francisco Bay, to impose increasingly stringent and costly controls on dental offices. Within the current point source regulatory structure. POTWs that have mercury compliance problems, or perceive that they might have if the criteria become more stringent (e.g. through loss of dilution credit), are forced to continue to look "upstream" for additional sources to control, until such time, as recommended, as a more comprehensive watershed based approach is allowed.

CDA is a strong supporter of water quality and human health protection. CDA's primary goals in commenting on the draft CTR are to request that mercury criteria be based on sound science and that mercury regulation be implemented via a watershed management, phased TNML-type approach. CDA is particularly concerned that the CTR does not adequately assess the economic impacts on indirect dischargers nor the extent to which there will be measurable water quality benefits solely from adoption of the proposed mercury criteria for point sources.

#### Watershed Management Based Approach

Data show that there are elevated levels of mercury in San Francisco Bay waters, sediments, and some fish tissue. It is critical to have a better understanding of watershed-wide mercury inputs, fate, transport, and biogeochemical transformations affecting the San Francisco Bay food chain and human health, and the feasibility and costs of alternative control measures, before imposing potentially onerous control measures (through POTWS) on indirect dischargers, such as dentists, that may not provide measurable water quality or human health benefits.

Since POTWs are only responsible for contributing 1-10% of the toxics mass loading (including mercury) to San Francisco Bay (p. 7-7 EA) it makes economic sense to focus limited public resources on identification of larger and potentially more cost-effective sources to control. Since dentists likely represent a very minor and declining fraction of the mercury loading to POTWs (due to implementation

of BMPs and substitution of non-mercury based compounds for mercury containing dental amalgam), it makes even more public policy sense to fully evaluate and prioritize all sources and controls before pursuing additional control measures on indirect dischargers such as dentists. This needs to be conducted on a watershed basis, consistent with various EPA guidance including the August 1997 Robert Perciasepe TMDL Policy memorandum and the San Francisco Bay Regional Board's July 1997 Watershed Management Initiative Guidance.

Response to: CTR-086-001a

The commentor's concerns that the CTR would disproportionately impact dental offices makes assumptions about the implementation of the CTR. The implementation of the CTR includes issues that are outside the scope of this rule. The purpose of the CTR is to establish ambient criteria, which define the constituent concentrations that represent a quality of water that supports a particular use. EPA recognizes that both point (including indirect industrial discharges to POTWs) and nonpoint sources may contribute to exceedence of water quality criteria. While EPA encourages the State to take a watershed approach and consider the total and relative loadings from, and the most effective means of controlling, both point and nonpoint sources in developing programs to ensure that criteria are met, the purpose of the CTR is to establish the criteria themselves; not to provide, nor impose, tools for achieving the criteria. The State has primacy in developing its own implementation procedures. The State's proposed implementation procedures can be found in "Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California," September 11, 1997. The State plans to issue a final policy shortly after promulgation of the CTR.

EPA believes that the Economic Analysis does adequately address economic impacts on indirect dischargers based on the use of available data. The EA used available data from San Jose and Sunnyvale based on those cities' projections of pretreatment controls for copper and nickel from industrial sources. EPA's analysis makes reasonable estimates given the uncertainty of whether NPDES permit limits will become more stringent and how POTWs would implement controls on industrial or commercial discharges to POTWs. As stated in the EA, the States and POTWs have a great deal of discretion in implementing these criteria.

Regarding the commentor's request that mercury criteria be based on sound science see responses to category C-1.

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Comment ID: CTR-090-007

Comment Author: C&C of SF, Public Util. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: Q Nonpoint Sources

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

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Comment: Major Concerns About the Proposed Criteria and Rule

1. The Proposal is Based on Poor Data and Will Not Result in Better Water Quality for California. We

stated that our own attainability analysis and that of BADA show that San Francisco,) will be impacted by this rule. Unfortunately, due to the short time for review, the poor quality of data and basis for statements and assumptions in the proposal and the problem with detection limits we cannot specifically say what will be the cost to Sari Francisco. One analysis tell us it could be \$2.3 million per year annualized costs and another analysis tells us it could be much more. We strongly recommend major revision to the proposal and the economic analysis before final promulgation for the following reasons:

This rule will be applied to point source dischargers with NPDES permits and all EPA and State data confirm that the major sources of many of the pollutants of concern in the major waters of California are not point discharges.

Response to: CTR-090-007

The comment claiming the CTR will have a disproportionate burden on point sources deals with implementation of the CTR which is outside the scope of this rule. The purpose of the CTR is to establish ambient criteria, which define the constituent concentrations that represent a quality of water that supports a particular use. EPA discusses the legal bases for the rule in the preamble and elsewhere in the comment response document for the rule. EPA recognizes that both point and nonpoint sources may contribute to exceedence of water quality criteria. While EPA encourages the State to take a watershed approach and consider the total and relative loadings from, and the most effective means of controlling, both point and nonpoint sources in developing programs to ensure that criteria are met, the purpose of the CTR is to establish the criteria themselves; not to provide, nor impose, tools for achieving the criteria. The State has primacy in developing its own implementation procedures. The State's proposed implementation procedures can be found in "Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California," September 11, 1997. The State plans to issue a final policy shortly after promulgation of the CTR.

Regarding the uncertainty of the costs to San Francisco, EPA agrees that economic impacts, due to the the uncertain manner in how the CTR will be implemented by on a site-specific basis, are difficult to predict. However, EPA believes its Economic Analysis provides a reasonable range of potential costs to sample facilities given the available data and the uncertainty of site-specific implementation.

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Comment ID: CTR-090-015

Comment Author: C&C of SF, Public Utl. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: Q Nonpoint Sources

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES

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Comment: Source of toxicants - Benefits from adoption of this rule may be minimal as the most serious water quality problems are caused by non-point sources not subject to WQBEL in NPDES permits. For example, the Benefits Document depicts the seven northern California water bodies that currently have DHS health advisories. These water bodies are:

1. Lake Nacimiento 2. Guadalupe and other Santa Clara County Reservoirs 3. Lake Herman 4. Lake Berryessa 5. Clear Lake 6. Kesterton National Wildlife Refuge/Grassland Area 7. San Francisco Bay

The first five areas are all areas contaminated by mercury from historical mercury mines. Between the late nineteenth century to about 1965, the central coast ranges from San Luis Obispo County north to Lake County provided 70% of the domestic production of elemental mercury. The dominant ore was cinnabar, (HgS) which was found typically in shallow deposits within serpentine and other Franciscan formation rocks. Many abandoned mercury mines with their attendant calcined waste dumps and contaminated main facilities are found throughout this area. Construction and maintenance of access roads to these mines could also mobilize considerable mercury through increased erosion.

Natural releases of mercury either through seismic or geothermal activity may be a significant portion of the mercury problem in some parts of Clear Lake. Sediment deposits dated to 8,800 years ago show mercury concentrations up to 65 mg/kg. Geothermal activity also occurs within the catchment for Lake Beryessa.

(For a good discussion of the mercury problem in the Coast Ranges, see Hood, Michael, et al, Mining Waste Study -Final Report, University of California, Berkeley, July 1, 1988, prepared for the SWRCB, pages 243, et seq. and pages 275 et seq.).

No part of this mercury problem can be attributed to either POTWs or currently active industries. Nor will anything in the CTR provide additional tools to assist in the remediation of the correctable portions of these mercury problems.

The sixth site is Kesterson Reservoir, contaminated by selenium, from surface and sub-surface agricultural drains. Again state efforts to remediate this problem are underway and will not change as a result of the CTR.

The seventh area is San Francisco Bay. Portions of the Bay have elevated levels of mercury, PCBS, dioxin and pesticides. EPA acknowledges that NPDES permitted point sources typically account for between 4 % and 11 % of most of the problematic toxicants.

Whether these percentages hold true for the chlorinated organic compounds is difficult to establish as many potential sources are not well characterized due to analytical problems. Nevertheless, it is unlikely that POTWs and industrial point sources are anything other than minor contributors of the chlorinated hydrocarbon compounds of greatest concern.

The major sources for most of the problem toxicants in the Bay, are, agriculture, abandoned mines, historical contaminated sediments and both urban and nonurban runoff. These major sources will be very difficult, and in some cases impossible, to control. Therefore, even if permitted point sources achieve full compliance with the CTR, only negligible (<10%) improvement in Bay water quality will result. The CTR must address this critical issue: which toxic pollutants prevent California waters from achieving CWA goals and objectives and what is the source of these toxicants. This assessment is necessary to determine if EPA has met its obligations to promulgate new water quality standards necessary to meet the requirements of the Act. [CWA section 303(c)(4)]

Response to: CTR-090-015

See response to CTR-090-007 (first paragraph).

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Comment ID: CTR-090-023b

Comment Author: C&C of SF, Public Utl. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: Q Nonpoint Sources

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES K-02

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Comment: An Alternative Strategy to Implement the CTR - The CTR will likely result in massive public and private expenditures without yielding measurable or significant environmental benefits. Costs can be significantly reduced with regulatory flexibility and the cost analysis assumes that regulatory relief will be forthcoming when costs become excessive. However, nothing in the preamble nor anything in the State's implementation plan indicates a willingness to provide regulatory relief. On the contrary, the draft rule establishes an unusually cumbersome variance procedure while the State's draft proposal sets out very conservative procedures for WQBELs and waste load allocations (WLAs).

For these reasons, we recommend a go slow approach to both promulgating and implementing the CTR for those toxicants where the best evidence indicates that non-permitted sources are the predominant sources. This approach would:

1. Use the concept of temporary standards based on liberal assumptions such as use of a CRF of 10E-4 or 10E-4.5 until such time that a) problems in tissue concentrations are established; and b) loadings are established within the watershed.
2. Require permitted sources, including storm water sources to thoroughly characterize their discharges for the watershed specific problem contaminants.
3. Require permitted sources including storm water that discharge nontrivial amounts of problem toxicants to participate in or financially support ambient monitoring programs.
4. Require permitted sources including storm water sources, to undertake all reasonable source control efforts for any problem toxicants in their discharge.

The above efforts will continue through the development of Watershed based control measures, including TMDLs where required. For complex watershed the TMDL process could be lengthy, up to 10 years or more.

Such approaches were discussed in the preamble of the Great Lakes Initiative (589 FR 72, April 16, 1993), and are further discussed in a September 10, 1997 EPA HQ draft memorandum "A Watershed Approach for the Achievement of Water Quality Objectives." (Attachment 1) The temporary limits approach would also obviate the massive administrative burdens contained in the proposed variance procedures.

Response to: CTR-090-023b

See response to CTR-090-023b (first paragraph).

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Subject Matter Code: R RFA/SBREFA

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Comment ID: CTR-001-008b  
Comment Author: Law Offices of Alan C. Waltner  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org: Alameda Cnty Clean Wtr Pgm  
Document Date: 09/22/97  
Subject Matter Code: R RFA/SBREFA  
References:  
Attachments? N  
CROSS REFERENCES J-02

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Comment: EPA'S PROPOSAL VIOLATES THE REGULATORY FLEXIBILITY ACT

Several of the member agencies of the ACCWP have populations less than 50,000 (Piedmont, Emeryville, Albany) and will be significantly affected by the proposed rule if it results in the adoption of NELs or WLAs in the permit for their discharges. These "small entities" under the Regulatory Flexibility Act ("RFA") are entitled to both initial and final regulatory flexibility analyses under the RFA.

EPA's finding that a substantial number of small entities will not be significantly affected by the proposed rule is arbitrary and capricious given this demonstrated impact. A substantial number of municipalities less than 50,000 in population are currently covered by NPDES permits for their storm water discharges. In addition, EPA's upcoming Phase II storm water regulations may substantially expand the universe of small municipalities that will be subject to NPDES permits and, through those permits, to the provisions of the CTR.

Neither the ACCWP, the ACCWP's member agencies or, to our knowledge, any other storm water system that will be subject to this rule, was contacted by EPA in advance of the proposed rulemaking and given a reasonable opportunity to participate in the rulemaking as required by 5 U.S.C. section 609(a). In addition, as a "covered agency" under 5 U.S.C. section 609, EPA must process the proposed rule in accordance with the provisions of that section, including the convening of a review panel, but apparently has failed to do so.

Response to: CTR-001-008b

The Regulatory Flexibility Act generally requires federal agencies to prepare a regulatory flexibility analysis (RFA) that describes the impact of a rule on small entities (small businesses, small organizations and small governmental jurisdictions) whenever an agency promulgates a final rule under section 553 of the Administrative Procedure Act, 5 U.S.C. Section 553. 5 U.S.C. Section 604. Under section 605(b) of the Regulatory Flexibility Act, however, if the head of an agency certifies that a rule will not have a significant economic impact on a substantial number of small entities, the statute does not require the agency to prepare an RFA. Pursuant to section 605(b), the Administrator is today certifying that this rule will not have a significant economic impact on a substantial number of small entities for the reasons explained below. Consequently, EPA has not prepared an RFA.

The RFA requires analysis of the economic impact of a rule only on the small entities subject to the rules' requirements. See *United States Distribution Companies v. FERC*, 88 F.3d 1105, 1170 (D.C. Cir. 1996). ("[N]o [regulatory flexibility] analysis is necessary when an agency determines that the rule will not have

a significant economic impact on a substantial number of small entities that are subject to the requirements of the rule," *United Distribution* at 1170, quoting *Mid-Tex Elec. Co-op v. FERC*, 773 F.2d 327, 342 (D.C. Cir. 1985) (emphasis added by United Distribution court).) Thus, the RFA requires that any regulatory flexibility analysis prepared for a final rule must include estimates of "the number of small entities to which a rule will apply." 5 U.S.C. Section 604(a)(3). The analysis must also include a description of the recordkeeping, reporting and compliance requirements of the rule, including an estimate of the classes of small entities "which will be subject to the requirements." 5 U.S.C. Section 604(a)(4). In light of these provisions, courts have consistently interpreted the RFA to impose no obligation on an agency to conduct a small entity impact analysis on entities it does not regulate. *Motor & Equip. Mfrs. Ass'n v. Nichols*, 142 F.3d 449, 467 & n.18 (D.C. Cir. 1998).

The U.S. Court of Appeals for the District of Columbia Circuit recently reaffirmed its conclusion that the RFA does not require an agency to prepare an assessment of the economic impact of a rule on small entities that are not directly affected by a rule. *American Trucking Association, Inc. v. U.S. Environmental Protection Agency*, (D.C. Cir. 1999). In that case, the court determined that EPA was not required to prepare a regulatory flexibility analysis of the economic impact of a rule on small entities when it promulgated air quality standards under the Clean Air Act. There, EPA had certified that the rule would not have a significant impact on small entities because the air standard did not directly impose requirements on small entities and consequently they were not subject to the rule. Under the Clean Air Act, states regulate small entities through state implementation plans that they are required to develop under the Act. States have broad discretion in determining how to achieve compliance with the standards and may choose to avoid imposing any of the burden of complying with the standards on small entities.

The CTR presents a situation very similar to that described in the *American Trucking* case. It establishes no requirements that are directly applicable to small entities, and so the agency is not required to conduct a regulatory flexibility analysis under the RFA. (See *United States Distribution Companies v. FERC*, 88 F.3d 1105, 1170 (D.C. Cir. 1996). The Agency is therefore certifying that today's rule will not have a significant economic impact on a substantial number of small entities, within the meaning of the RFA.

Under the CWA water quality standards program, states must adopt water quality standards for their waters that must be submitted to EPA for approval. If the Agency disapproves a state standard and the state does not adopt appropriate revisions to address EPA's disapproval, EPA must promulgate standards consistent with the statutory requirements. EPA has authority to promulgate criteria or standards in any case where the Administrator determines that a revised or new standard is necessary to meet the requirements of the Act. These state standards (or EPA-promulgated standards) are implemented through various water quality control programs including the National Pollutant Discharge Elimination System (NPDES) program that limits discharges to navigable waters except in compliance with an EPA permit or permit issued under an approved state program. The CWA requires that all NPDES permits must include any limits on discharges that are necessary to meet state water quality standards.

Thus, under the CWA, EPA's promulgation of water quality criteria or standards establishes standards that the state, in turn, implements through the NPDES permit process. The state has considerable discretion in deciding how to meet the water quality standards and in developing discharge limits as needed to meet the standards. In circumstances where there is more than one discharger to a water body that is subject to water quality standards or criteria, a state also has discretion in deciding on the appropriate limits for the different dischargers. While the state's implementation of federally-promulgated water quality criteria or standards may result indirectly in new or revised discharge limits for small entities, the criteria or standards themselves do not apply to any discharger, including small entities.

EPA recognizes that it has undertaken an economic analysis pursuant to E.O. 12866 for this rule. This analysis, however, makes numerous assumptions and does not necessarily predict how the state will implement the criteria. Thus, the economic analysis represents EPA's best estimate of the implementation costs of the rule given the broad flexibility the state has in implementing the criteria.

The CTR, as explained above, does not itself establish any requirements that are applicable to small entities. As a result of EPA's action here, the State of California will need to ensure that permits it issues comply with the water quality standards established by the criteria in today's rule. In so doing, the State will have a number of discretionary choices associated with permit writing. While California's implementation of today's rule may ultimately result in some new or revised permit conditions for some dischargers, including small entities, EPA's action today does not impose any of these as yet unknown requirements on small entities.

Although the statute does not require EPA to prepare a regulatory flexibility analysis when it promulgates water quality criteria which will establish water quality standards for California, EPA has prepared an assessment of potential economic impact. This evaluation focuses on State and local implementation procedures related to the NPDES permit program. This evaluation is included in a document entitled, Implementation Analysis of Ambient Water Quality Criteria for Priority Toxic Pollutants in California which is part of the administrative record for this rulemaking. This document looks at the many implementation procedures of the NPDES permit program that the State implements to control pollutants from point source discharges. The procedures discussed in the document include: methods to calculate water quality-based effluent limits; mixing zones; site-specific translators for metals criteria; compliance schedules; effluent trading; water-effect ratios; variances; designated use reclassification; and site-specific criteria. Each of these implementation procedures may have an effect on how water quality standards, based on the criteria in today's rule, will impact NPDES permit holders. Many of these procedures will lessen impacts on regulated entities.

The document also looks at implementation procedures used in the pretreatment program to control pollutant discharges from dischargers that do not discharge directly but introduce pollutants to publicly owned treatment works (POTWs). These dischargers include retail, commercial, and small industrial facilities that discharge to publicly owned treatment works (POTWs). Local entities have significant flexibility to implement their pretreatment programs. These procedures include: methods to calculate local limits (allocation of pollutants); methods of pollution prevention for various specific sources; pretreatment pollutant trading; methods of low cost pollutant reductions; technical assistance to move toward or achieve zero-discharge; cost accounting to drive down levels of discharges; and a few of the regulatory relief options discussed in the direct discharger section, e.g., compliance schedules.

The discussion illustrates the significant amount of flexibility available to the State and local agencies when implementing the NPDES permit program and pretreatment program and emphasizes that appropriate use of the available implementation tools can greatly affect the impact to many direct and indirect dischargers.

See also response to CTR-050-007a (Category C-21; Legal Concerns) and the preamble to the final rule.

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Comment ID: CTR-005-006c  
Comment Author: Novato Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA

Represented Org:  
Document Date: 09/23/97  
Subject Matter Code: R RFA/SBREFA  
References:  
Attachments? Y  
CROSS REFERENCES C-21; S

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Comment: 5. The proposed rule is inconsistent with applicable Federal law and regulations. In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. The Clean Water Act requires that water quality standards be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and also taking into consideration their use and value for navigation (See CWA section 303(c)(2)(A)). Consistent with this, EPA regulations require that water quality standards be based on identification of where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern. For those identified waters, states must adopt criteria for such toxic pollutants applicable to sufficient to protect the designated use"(See 40 CFR 131.1 1 (a)(2)).

Clearly the intent of both the Act and EPA regulations is that water quality standards be tailored to the characteristics of the waters in question. In failing to properly evaluate the rule's economic impacts and in failing to adequately consider regulatory alternatives, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act. In failing to properly consider the impacts on small entities, the rule is inconsistent with the Regulatory Flexibility Act.

Response to: CTR-005-006c

With respect to EPA's decision to publish a single set of criteria in the rule, see responses to CTR-035-012a and CTR-036-005 (both responses are in Category C-21; Legal issues). For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see responses to CTR-001-008b, CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a (Category S; Unfunded Mandates Reform Act), and the preamble to the proposed rule.

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Comment ID: CTR-013-008a  
Comment Author: County of Los Angeles  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: R RFA/SBREFA  
References: Letter CTR-013 incorporates by reference letter CTR-027  
Attachments? N  
CROSS REFERENCES J

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Comment: In addition, we would like to emphasize the following concerns which greatly impact the Los Angeles County Stormwater Program:

8. The proposed rule applies to all current and future MS4 dischargers, including small communities.

The small communities will be significantly impacted by the proposed rule. In Los Angeles County, 77 of the 85 co-permittee cities are communities with a population of less than 100,000. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies, however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities, however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule(\*2) it indicates that there are no small entities to be impacted by the rule and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis on the economic impacts to smaller communities.

Therefore, unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

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(\*2) Federal Register, August 5, 1997, Vol. 62, No. 150, Page 42191.

Response to: CTR-013-008a

See response to CTR-001-008b and the preamble to the final rule.

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Comment ID: CTR-014-004a

Comment Author: City of Lakewood

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: R RFA/SBREFA

References: Letter CTR-014 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES J

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Comment: 4. The proposed rule applies to all current and future MS4 dischargers, including small communities. These small communities will be significantly impacted by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume

that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule(\*1), it indicates that there are no small entities to be impacted by the rule, and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis on the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

Thank you for this opportunity to comment on the proposed CTR. Respectfully,

Lisa Ann Rapp Director of Public Works

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(\*1) Federal Register, August 5, 1997, Vol. 62, No. 150, Page 42191

Response to: CTR-014-004a

See response to CTR-001-008b and the preamble to the final rule.

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Comment ID: CTR-019-003b  
Comment Author: Richards, Watson & Gershon  
Document Type: Local Government  
State of Origin: CA  
Represented Org: Cities of Barst  
Document Date: 09/26/97  
Subject Matter Code: R RFA/SBREFA  
References: Letter CTR-019 incorporates by reference letters CTR-001, CTR-013, CTR-027 and CTR-036

Attachments? N  
CROSS REFERENCES J

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Comment: THE PROPOSED RULE DOES NOT COMPLY WITH THE REGULATORY FLEXIBILITY ACT

USEPA's analysis under the Regulatory Flexibility Act and Executive Order No. 12866 that the CTR will not affect a significant number of small entities is simply wrong. Most of the cities which we represent have populations of less than 20,000; many have less than 10,000. As noted by the County of Los Angeles, 77 of the co-permittee cities have populations of less than 100,000. Many of these cities are

primarily residential and with limited tax revenues. Nevertheless the proposed CTR would impose the same financial requirements on these cities as would be imposed on larger entities. These cities do not receive funds from either the State of California or the federal government for their storm water programs or other urban runoff control measures.

Response to: CTR-019-003b

See response to CTR-001-008b and the preamble to the final rule.

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Comment ID: CTR-021-005d

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: R RFA/SBREFA

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES C-13; C-28; E-01c; S

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Comment: It is with a sense of reluctance that Sunnyvale joins in CASA/Tri-TAC's adverse comments on the CTR and the EA, and Sunnyvale does so in a spirit of constructive criticism and with an expectation that the Agency will make the necessary adjustments in its approach towards the CTR before the final rule is promulgated. In addition, in the same spirit and with the same expectation, Sunnyvale would like to make the following points on its own behalf:

2. **Obligation to Assess Alternative Cancer Risk Levels for Human Health-Based Criteria.** Sunnyvale is gravely concerned that EPA has used the wrong approach in proposing to establish human health criteria for organic pollutants, particularly those pollutants for which the proposed criteria are below the method level of detection ("MDL"). Sunnyvale recommends that EPA should thoroughly assess all of the potential impacts, including costs and benefits, of the 10E-4 and 10E-5 risk levels before proposing the human health-based criteria. As pointed out in the EOA Letter, there is a significant potential for advancing technology to lower the MDL for many pollutants to the point where laboratory equipment is able to measure some or all of the organic compounds for which EPA is proposing to establish criteria at the new level. It is intuitively obvious that the costs of attaining criteria set at the 10E-6 level will be significantly greater than attainment of a 10E-5 or 10E-4 level, particularly where, as pointed out in the EOA Letter, the only available method of treatment is granular activated carbon. Sunnyvale is concerned that the EA does not adequately address the potential for these costs, and, consequently, does not take these potential costs into account in determining whether to exercise its flexibility in choosing whether to use a 10-4 , 10-5 or 10-6 cancer risk level as the basis for its CTR promulgation.

EPA is required by Executive Order 12866, the Regulatory Flexibility Act and the Unfunded Mandates Reform Act to identify and analyze alternatives to a proposed rule. We cannot understand, therefore, why EPA has done such a cursory analysis in the preamble to the CTR and the EA of the alternatives to the use of the most stringent (10E-6) risk level for establishing criteria for human health effects of pollutants, particularly organic pollutants. EPA cannot base its selection of the 10E-6 level based upon previous regulatory pronouncements by the State of California. Any new determination by the State will be subject to the analytical requirements of Section 13241 of the Porter-Cologne Act and by review by

the Office of Administrative Law. Thus, it is not a foregone conclusion that the State will ultimately select the 10E-6 level. EPA has its own legal requirements to fulfill. Accordingly, we ask that EPA not promulgate the final human health criteria for the pollutants of concern unless and until it has adequately analyzed the costs and other implications of the various alternatives to the 10E-6 level.

In conclusion, we are entirely supportive of many of EPA's innovative approaches towards development of the CTR, particularly as regards the toxic metals. However, we believe tht EPA has needlessly failed to comply with many of its legal obligations, particularly as regards the development of human health-based criteria on cancer risk levels of organic pollutants. We urge the Agency to reconsider its position in the matters covered by this letter (as amplified by the EOA Letter) and the CASA/Tri-TAC letter. Sunnyvale pledges its continued participation in place-based watershed management planning in the South Bay, its cooperation with the Agency in making a success of the WPI, and to an ongoing effort by the Agency and others to reach water quality goals in the South Bay. We thank you for the opportunity to comment on the proposed CTR.

Response to: CTR-021-005d

For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see responses to CTR-001-008b, CTR-036-005c (Category E-01c; Executive Order 12866), CTR-036-003a (Category S; Unfunded Mandates Reform Act), and the preamble to the proposed rule.

With respect to detection limits see response to CTR-034-010b and CTR-060-010 (Category C-28; Detection Limits). With respect to the selection and economic analysis of risk levels for carcinogens see responses to CTR-021-005a (Category C-13; Risk Level) and CTR-021-005c (Category E-01c; Executive Order 12866).

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Comment ID: CTR-021-006c

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: R RFA/SBREFA

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES J; E-01c; S; I-01

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Comment: It is with a sense of reluctance that Sunnyvale joins in CASA/Tri-TAC's adverse comments on the CTR and the EA, and Sunnyvale does so in a spirit of constructive criticism and with an expectaton that the Agency will make the necessary adjustments in its approach towards the CTR before the final rule is promulgated. In addition, in the same spirit and with the same expectation, Sunnyvale would like to make the following points on its own behalf:

3. Failure to Address Important Stormwater-Related Issues. In addition to its POTW, Sunnyvale is the owner of a system of storm drains which contribute wet weather flows to the South Bay. We are concerned that the EA entirely neglects the potential impacts of the proposed CTR on the storm drains. The EA entirely omits any meaningful analysis of the costs of bringing storm drains into compliance with

the proposed CTR, thereby significantly understating the overall costs of the CTR. We believe that this omission is violative of the Agency's legal obligations under the authorities cited in the preceding paragraph.

In addition, we join in the comments being filed by the various other operators of stormwater collection systems to the effect that EPA has overstated the legal requirements for storm drains to comply with numerical criteria.

Response to: CTR-021-006c

For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see responses to CTR-001-008b, CTR-036-005c (Category E-01c; Executive Order 12866), CTR-036-003a (Category S; Unfunded Mandates Reform Act), and the preamble to the proposed rule.

EPA believes it properly described the potential impact of the implementation of the CTR on storm drains in the preamble to the proposed CTR and in its Economic Analysis. For further discussion see responses to CTR-013-003 and CTR-040-004 (Category J; Stormwater Economics).

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Comment ID: CTR-023-001

Comment Author: City of Los Alamitos

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: R RFA/SBREFA

References: Letter CTR-023 incorporates by reference letters CTR-027 and CTR-036

Attachments? N

CROSS REFERENCES

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Comment: The City of Los Alamitos is particularly concerned that, in promulgating the California Toxics Rule, US EPA has neglected its responsibilities under the Regulatory Flexibility Act (RFA). Specifically, the proposed rule does not present any analysis of its impact on a small entity such as the City of Los Alamitos (Population - 12,425) as required by the RFA.

As a small entity regulated under the municipal stormwater permitting requirements of the Clean Water Act, the proposed rule making will have a profound impact on the City of Los Alamitos. This impact now needs to be explicitly understood before further action is taken on the California Toxics Rule.

Response to: CTR-023-001

See response to CTR-001-008b and the preamble to the final rule.

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Comment ID: CTR-024-004a

Comment Author: City of Hawthorne

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: R RFA/SBREFA

References: Letter CTR-024 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES J

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Comment: 4. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly impacted by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule(\*1), it indicates that there are no small entities to be impacted by the rule, and therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis on the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

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(\*1) Federal Register, August 5, 1997, Vol. 62, No. 150, page 42191

Response to: CTR-024-004a

See response to CTR-001-008b and the preamble to the final rule.

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Comment ID: CTR-027-009a

Comment Author: California SWQTF

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: R RFA/SBREFA

References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040

Attachments? N

CROSS REFERENCES J

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Comment: 9. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly impacted by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems if the proposed criteria are adopted. While most small communities have not conducted discharge characterization studies; it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless EPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule (\*3), USEPA indicates that no small entities are impacted by the rule, and, therefore, USEPA did not need to complete an analysis required under the Act. USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase II. USEPA should have conducted an analysis on the economic impacts to smaller communities.

Recommendation: Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be promulgated until USEPA has complied with the requirements of the Regulatory Flexibility Act.

(\*3) Federal Register, August 5, 1997, Vol. 62, No. 150, page 42191

Response to: CTR-027-009a

See responses to CTR-013-003, CTR-040-004, (Category J; Stormwater Economics), and CTR-001-008b.

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Comment ID: CTR-027-011

Comment Author: California SWQTF

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: R RFA/SBREF A

References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040

Attachments? N

**CROSS REFERENCES**

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Comment: 11. The proposed rule appears to violate applicable Federal law and regulations. As indicated in the above comments, it appears that the proposed rule is inconsistent with the Regulatory Flexibility Act by not considering the impacts on small entities. The rule also appears to be in conflict with the Clean Water Act by proposing a single set of criteria for all fresh waters instead of adopting criteria for pollutants that could "reasonably be expected to interfere with those designated uses".(\*4)

And finally as noted in our comment 3, the rule did not consider the potential cost for MS4s for either a BMP based program or a program designed to meet WQBELS. The Statewide cost for this latter effort may be as high as \$7 billion per year. Further discussions are provided on these issues in the responses to the CTR by the counties of Alameda, Orange and Sacramento and are incorporated herein by reference.

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(\*4) Federal Register, August 5, 1997, Vol. 62, No. 150, page 42160

Response to: CTR-027-011

With respect to EPA compliance with the RFA see response to CTR-001-008b and the preamble to the final rule. With respect to the commenter's assertion that the rule is in conflict with the Clean Water Act by proposing a single set of criteria for all fresh waters see response to CTR-036-005 (Category C-21; Legal Issues). With respect to costs for stormwater dischargers, EPA disagrees. See response to CTR-013-003 (Category J; Stormwater Economics).

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Comment ID: CTR-028-001a

Comment Author: City of Folsom

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: R RFA/SBREFA

References: Letter CTR-028 incorporates by reference letter CTR-040

Attachments? N

CROSS REFERENCES J

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Comment: The City is a small community with a population of less than 50,000. We volunteered to participate in the Sacramento Stormwater Management Program as a co-permittee on the NPDES permit because we understood that it was a BMP-based program aimed at reducing the discharge of pollutants to the maximum extent practicable. We are very concerned with the CTR's Preamble statement that municipal stormwater agencies must comply with effluent limitations based on water quality criteria. As the County has stated in its comments, this will result in enormous costs without producing significant environmental benefits.

We are also concerned that the EPA Administrator has certified that the CTR will have no effect on small entities such as the City. Based on the estimated compliance costs prepared by the County and the statewide estimates prepared by the California Storm Water Quality Task Force, the CTR will have significant economic effects on small communities throughout the State. For example, our proportional share of the countywide costs to comply with effluent limitations, based on the proposed water quality criteria, could be over \$10 million per year.

We urge EPA to reconsider its position that municipal stormwater discharges must comply with water quality standards. EPA should remove the Preamble statement or clarify that municipal stormwater discharges are only required to reduce the discharge of pollutants to the maximum extent practicable.

Alternatively, EPA must revise its economic analysis to include the costs to municipal stormwater agencies and the EPA Administrator must withdraw her certification and, pursuant to the requirements of the Regulatory Flexibility Act, assess the economic impacts of the CTR on small entities.

Response to: CTR-028-001a

See responses to CTR-013-003, CTR-040-004, (Category J; Stormwater Economics), and CTR-001-008b.

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Comment ID: CTR-031-006b

Comment Author: Fresno Metro. Flood Ctrl Dist.

Document Type: Flood Ctrl. District

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: R RFA/SBREFEA

References: Letter CTR-031 incorporates by reference letter CTR-027

Attachments? N

CROSS REFERENCES J; E-01c

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Comment: b. If the CTR as proposed in the current draft is applied to municipal storm water dischargers so as to require numeric effluent limitations in municipal stormwater permits, the cost to the public will be phenomenal. In the economic analysis of the CTR, EPA failed to consider these costs, and failed to consider the costs to industrial storm water dischargers as well.

The District Is urban storm water drainage system captures through retention 90% of its annual average runoff, and discharges 90% after detention (1% is directly discharged without treatment). The system cost in 1997 dollars is estimated at \$500 million.

The only option available to the District to mitigate violations of the proposed criteria would be to expand system storage to capture 100% of average annual runoff. Increasing system storage by 20,000 acre feet (estimated additional storage required for average years), at the current cost of \$11,000-\$20,000 per acre foot of storage, would result in a capital expenditure of \$220,000,000 to \$400,000,000.

Even with this exorbitant investment, in approximately half of the rain seasons storage would be exceeded, and 100% of the discharges would be expected to exceed the dissolved metals criteria noted above.

Smaller cities (under 50,000) in California are currently subject to NPDES municipal storm water discharge permits, and many more will be included upon implementation of the Stormwater Phase II program. EPA's failure to assess economic impacts on small cities would appear to be contrary to the requirements of the Federal Regulatory Flexibility Act.

The District includes in its constituency industrial businesses. The District serves these businesses and assists in the oversight of their pollution prevention and storm water permit compliance efforts. Regardless of EPA's approach to applying the CTR to municipal storm water permits, industrial storm water dischargers are directly and seriously affected by application of the CTR. EPA's failure to assess these economic impacts on our communities is short-sighted and a breach of good public policy.

Response to: CTR-031-006b

With respect to EPA's compliance with the Regulatory Flexibility Act see response to CTR-001-008b.  
With respect to the commenter's estimate of its stormwater costs see response to CTR-040-004 (Category J; Stormwater Economics).

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Comment ID: CTR-031-009  
Comment Author: Fresno Metro. Flood Ctrl Dist.  
Document Type: Flood Ctrl. District  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: R RFA/SBREFA  
References: Letter CTR-031 incorporates by reference CTR-027  
Attachments? N  
**CROSS REFERENCES**

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Comment: Any continuing ambiguities and inconsistencies among state and federal law, regulation, and official policy will continue to lead to legal challenges and the corresponding drain on public funds. The CTR should not be adopted as proposed. The above comments and concerns are fundamental to accomplishing consistency with the CWA and Regulatory Flexibility Act, and providing for the unique circumstances of regulating municipal storm water dischargers.

Response to: CTR-031-009

See response to CTR-001-008b.

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Comment ID: CTR-034-005  
Comment Author: SCAP  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: R RFA/SBREFA  
References: Letter CTR-034 incorporates by reference letter CTR-035  
Attachments? N  
**CROSS REFERENCES**

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Comment: LEGAL ISSUES -- Executive ORder 12866, Unfunded Mandates Reform Act, Regulatory Flexibility Act

\* SCAP disagrees with EPA's determination under the Regulatory Flexibility Act that the rule will not have a significant economic impact on a substantial number of small entities. SCAP's membership includes several small entities serving a population of 50,000 or less that may be significantly affected by the CTR. In addition, all, of our members provide sewer services to all or most of the small businesses in their service areas. These businesses potentially will be affected by the proposed rule through increased

regulation of their discharges, increased sewer discharge fees, or both. EPA's conclusion appears to be based on the fact that the one minor municipal discharger that EPA studied had no effluent data for the CTR pollutants, and EPA therefore assumed that no costs would be incurred by any small municipal dischargers in the State. This reasoning is erroneous. We therefore request that EPA revise its Economic Analysis to fully examine the impact of the proposed rule on small entities, to re-analyze significant alternatives to the proposed rule (including those alternatives that would minimize any significant economic impact of the proposed rule on small entities), and to allow for meaningful involvement in the development of the rule by small entities.

Response to: CTR-034-005

EPA did not base its rationale for RFA compliance based on its assessment of the minor discharger in its Economic Analysis for the proposed CTR. With respect to the rationale for EPA's compliance with the Regulatory Flexibility Act see response to CTR-001-008b. The classification of minor and major dischargers is based on flow, not population served. EPA did include additional minor dischargers in its sample for its Final Economic Analysis in order to more accurately assess the potential cost of CTR implementation on minor dischargers throughout California.

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Comment ID: CTR-035-041

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: R RFA/SBREFA

References:

Attachments? N

**CROSS REFERENCES**

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Comment: pp. 42191 - 42192 -- The Regulatory Flexibility Act EPA's position that the Regulatory Flexibility Act (5 U.S.C.A. 601 et seq.) does not apply is incorrect. While EPA takes the position (p. 42192) that "the criteria or standards themselves do not apply to any discharger, including small entities," we believe that these statements are erroneous, since, as noted on p. 42182, "once an appropriate numeric criterion is selected for either aquatic life or human health protection, this facilitates the calculation of water quality-based effluent limits and/or total maximum daily loads (TMDLs) for that chemical." In fact, EPA itself oversees State issuance of these permits. EPA's reliance on the United States Distribution case cited at p. 42192 to demonstrate why the requirements of the Regulatory Flexibility Act do not apply is misplaced; that case involved the issue of whether the FERC needed to prepare a regulatory flexibility analysis ("RFA") when issuing its Order No. 636. The court determined that the RFA requirement did not apply in this case because of the statutory language exempting regulatory rulemaking where the agency determines "that the rule will not have a significant economic impact on a substantial number of small entities that are subject to the requirements of the rule. " (88 F.3d 1170) The court went on to note that the FERC did not even have authority to regulate the small entities allegedly affected by the rule. The exemption purportedly established by the United States Distribution case cannot be applied in this instance because the standards in the CTR are required by federal and state law to be implemented directly into NPDES permits, through water quality based effluent limitations calculated directly from the numerical criteria in the rule, as well as through load reductions to comply

with TMDLs derived from the standards. Under the Clean Water Act, every NPDES permit issued in California requires compliance with applicable water quality objectives and this will include those proposed in the CTR. Further, EPA has authority to apply those criteria directly, either by its review and potential veto of state-issued permits or its direct issuance of permits in cases where it has vetoed a state permit under Section 402(a) and (d) of the Clean Water Act. Accordingly, the Regulatory Flexibility Act requires EPA not only to prepare an official RFA, but to comply with the procedural requirements of Section 609(b) of the Act, including the requirement to notify and involve the Chief Counsel for Advocacy of the Small Business Administration.

Response to: CTR-035-041

See response to CTR-001-008b and the preamble to the proposed rule.

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Comment ID: CTR-036-004b

Comment Author: County of Orange

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: R RFA/SBREFA

References: Letter CTR-036 incorporates by reference letters CTR-013, CTR-018, CTR-031, CTR-034 and CTR-040

Attachments? N

CROSS REFERENCES J

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Comment: Finally, EPA has not met its duties under the Regulatory Flexibility Act (the "RFA"). Under the RFA, federal agencies are required to conduct an initial regulatory flexibility analysis ("IRFA") describing the impact of a proposed regulatory action on small entities. Once more relying on the claim that the proposed rule does not establish criteria that are directly applicable to small entities, EPA states that the mandates of RFA do not apply [62 Fed. Reg. 41160, 42191-92].

This position is contrary to both the letter and the spirit of the RFA. The fact that the toxics criteria contained in the proposed rule must be translated into water quality standards and, in turn, NPDES permit effluent limitations, does not negate the fact that the burden of complying and implementing such toxics criteria ultimately will be borne by individual municipalities and business entities. As noted above, the costs to municipalities alone could run into billion of dollars placing a severe strain on their budgets and forcing them to divert funds currently allocated to other important municipal services, including public safety.

Moreover, EPA's statement that "California will have a number of discretionary choices associated with permit writing" is disingenuous and ironic in light of EPA's rationale for issuing the proposed rule. The toxics criteria will necessarily narrow the State's discretion in issuing NPDES permits and in establishing effluent limits for such permits. If EPA had meant for the State to have any serious discretion, it would not be promulgating these criteria in the first place.

Response to: CTR-036-004b

See response to comment CTR-036-004a (Category J; Stormwater Economics).

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Comment ID: CTR-038-005b  
Comment Author: Sonoma County Water Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: R RFA/SBREFA  
References:  
Attachments? Y  
CROSS REFERENCES E-01c; S

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Comment: A further consequence of the flawed economic analysis is the conclusion that the CTR is not a major rule (i.e., one which will result in excess of \$100 million per year expenditure) subject to Presidential Executive order 12866 and the Unfunded Mandates Reform Act or a rule that affects small entities protected under the Regulatory Reform Act. The District, for example, is a small community having a population of under 50,000 and, in addition, serves several small towns and communities (Sonoma, Glen Ellen, Boyes Hot Springs and Agua Caliente) that would be greatly impacted by the proposed rule.

Response to: CTR-038-005b

See responses to CTR-001-008b, CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a (Category S; Unfunded Mandates Reform Act), and the preamble to the proposed rule.

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Comment ID: CTR-038-006c  
Comment Author: Sonoma County Water Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: R RFA/SBREFA  
References:  
Attachments? Y  
CROSS REFERENCES C-21; E-01c; S

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Comment: 5. The proposed rule is inconsistent with applicable Federal law and regulations. In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. The Clean Water Act requires that water quality standards be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, and recreational purposes (see CWA section 303(c)(2)(A)). Consistent with this, EPA regulations require that water quality standards be based on identification of "specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern..." For those identified waters, "states must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use" (See 40 CFR 131.11(a)(2)). Clearly the intent of both the Clean Water Act and EPA regulations is that water quality standards be tailored to the characteristics of the waters in question. In

failing to properly evaluate the rule's economic impacts and in failing to adequately consider regulatory alternatives, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act. Moreover, in failing to properly consider the impacts on small entities, such as the District and the small communities it serves, the rule is inconsistent with the Regulatory Flexibility Act.

Response to: CTR-038-006c

With respect to EPA's decision to publish a single set of criteria in the rule, see responses to CTR-035-012a and CTR-036-005 (both responses are in Category C-21; Legal issues). For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see responses to CTR-001-008b, CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a (Category S; Unfunded Mandates Reform Act), and the preamble to the proposed rule.

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Comment ID: CTR-038-008c  
Comment Author: Sonoma County Water Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: R RFA/SBREFA  
References:  
Attachments? Y  
CROSS REFERENCES C-24; E-01c; S; T

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Comment: 7. Separate, sites-specific aquatic life criteria for copper and human health criteria for mercury should be adopted for Schell Slough, or alternatively EPA should specify implementation procedures for these criteria that will preclude unreasonable controls such as end-of-pipe treatment. To comply with the Clean Water Act and EPA regulations, EPA should consider specific water bodies. To fulfill the spirit of Presidential Executive Order 12866 and the requirements of the Unfunded Mandates Reform Act and the Regulatory Flexibility Act, EPA should evaluate regulatory alternatives based on an analysis of costs and benefits. Based on the assessment of costs and benefits described in "3" above, EPA should either adopt the criteria that is currently achieved, or alternatively specify implementation procedures that would allow the current discharge to continue (e.g., allowable Mixing zones and averaging periods and, for copper, a translator and water-effect ratio). Again, the District is amenable to continuing to address these constituents through pollution prevention measures and to assessing the actual impacts of these constituents in Schell Slough. Without EPA specifying such implementation procedures in the CTR, it is possible that the CTR could impose significant costs on the District (and the other small communities its serves) without providing a commensurate environmental benefit. In that case, the CTR would be inconsistent with the Clean Water Act, EPA regulations, Presidential Executive Order 12866, the Unfunded Mandates Reform Act and the Regulatory Flexibility Act.

Response to: CTR-038-008c

See response to CTR-038-008a Category C-24; Site-Specific Criteria. See responses to CTR-034-010b and CTR-060-010 (Category C-28; Detection Limits). For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see responses to CTR-001-008b, CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a (Category S;

Unfunded Mandates Reform Act), and the preamble to the proposed rule.

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Comment ID: CTR-038-009c

Comment Author: Sonoma County Water Agency

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: R RFA/SBREFA

References:

Attachments? Y

CROSS REFERENCES C-28; E-01n; S

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Comment: 8. EPA should not adopt criteria for any pollutant where the method detection limit exceeds the objective and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses. The proposed rule includes criteria for a number of constituents where there is insufficient data to determine whether the discharge of such pollutants could reasonably be expected to interfere with the designated uses. EPA has chosen to promulgate criteria for these constituents even though section 303 (c)(2)(B) of the Clean Water Act requires States to adopt numeric criteria only for constituents "...the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." Clearly, this "play-it-safe" approach goes beyond the requirements of the Clean Water Act and is therefore unnecessary. By taking this approach, however, EPA is unable to fulfill its duty (under Presidential Order 12866, the Unfunded Mandates Reform Act, and the Regulatory Flexibility Act) to assess the costs, benefits, and impacts of the rule on local government and small entities. While this may be the conservative approach for EPA, it places dischargers throughout the State at risk. As analytical detection limits improve, dischargers may find they are unable to achieve the criteria without costly end-of-pipe controls. But, by then, it will be too late for EPA to evaluate the costs and benefits of the criteria and alternative criteria. For these reasons, EPA must not adopt criteria for those constituents. If EPA does adopt criteria for those constituents, EPA must evaluate the costs and benefits of the criteria, as well as alternative criteria, using worst case assumptions (i.e., assume that discharge levels and ambient levels are at the detection limits). With respect to the District's discharge and Schell Slough and Second Napa Slough, the criteria in this category include, but are not necessarily limited to, the following : benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, aldrin, 4,4'-DDD, 4,4'-DDE, dieldrin, endosulfan I, endosulfan II, endosulfan sulfate, heptachlor, heptachlor epoxide, toxaphene, PCB-1016, OCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, PCB-1260, and hexachlorobenzene (see Table 3).

Response to: CTR-038-009c

See responses to CTR-034-010b and CTR-060-010 (Category C-28; Detection Limits). For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see responses to CTR-001-008b, CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a (Category S; Unfunded Mandates Reform Act), and the preamble to the proposed rule.

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Comment ID: CTR-040-009a  
Comment Author: County of Sacramento Water Div  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: R RFA/SBREFA  
References: Letter CTR-040 incorporates by reference letter CTR-027  
Attachments? Y  
CROSS REFERENCES S; E-01c

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Comment: MAJOR CONCERNS

We do, however, have fundamental concerns with the Rule as it is presently proposed and its supporting economic analysis. We believe the Rule can be modified in a manner that will be responsive to our concerns while at the same time being consistent with applicable Federal law and regulations. Our major concerns are presented here and are followed by our recommended modifications.

II. Concern: The economic analysis upon which the Rule is based is seriously flawed.

\* A consequence of the cost/benefit analysis of the Rule are several erroneous conclusions, namely that: (1) this is not a "significant regulatory action" or a major rule (i.e., one which will result in excess of \$100 million annual expenditure) subject to the requirements contained in Presidential Executive Order 12866 and the Unfunded Mandates Reform Act; and (2) this is not a rule that will have a significant economic impact on a substantial number of small entities protected under the Regulatory Flexibility Act.

Response to: CTR-040-009a

See responses to CTR-001-008b, CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a (Category S; Unfunded Mandates Reform Act), and the preamble to the proposed rule.

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Comment ID: CTR-040-010b  
Comment Author: County of Sacramento Water Div  
Document Type: Storm Water Auth.  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: R RFA/SBREFA  
References: Letter CTR-040 incorporates by reference letter CTR-027  
Attachments? Y  
CROSS REFERENCES J

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Comment: MAJOR CONCERNS

We do, however, have fundamental concerns with the Rule as it is presently proposed and its supporting economic analysis. We believe the Rule can be modified in a manner that will be responsive to our concerns while at the same time being consistent with applicable Federal law and regulations. Our major concerns are presented here and are followed by our recommended modifications.

\* The cities of Folsom and Galt, co-permittees in our stormwater program, both have populations less than 50,000. Their costs associated with complying with the effluent limitations proposed in the Rule would be significant (on the order of \$10 million annually for each city). Therefore, the EPA Administrator's certification that the Rule would have no effect on small entities, pursuant to the requirements of the Regulatory Flexibility Act, is incorrect.

Response to: CTR-040-010b

With respect to EPA's compliance with the Regulatory Flexibility Act see response to CTR-001-008b. With respect to the commenter's estimate of its stormwater costs see response to CTR-040-004 (Category J; Stormwater Economics).

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Comment ID: CTR-040-013

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: R RFA/SBREFA

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: MAJOR CONCERNS

We do, however, have fundamental concerns with the Rule as it is presently proposed and its supporting economic analysis. We believe the Rule can be modified in a manner that will be responsive to our concerns while at the same time being consistent with applicable Federal law and regulations. Our major concerns are presented here and are followed by our recommended modifications.

III. Concern: The proposed Rule violates applicable Federal law and regulations

\* In failing to consider the impacts on small entities (e.g., for bringing stormwater into compliance with WQBELs based on the Rule's criteria), the Rule is inconsistent with the Regulatory Flexibility Act (See Attachment B).

Response to: CTR-040-013

See response to CTR-001-008b and the preamble to the rule.

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Comment ID: CTR-040-056

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: R RFA/SBREFA

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: 3. The California Toxics Rule is inconsistent with the Regulatory Flexibility Act.

The Regulatory Flexibility Act (RFA, 5 U.S.C. section 601 et seq.) requires that each federal agency, including EPA, publish in the Federal Register twice a year a regulatory flexibility agenda which contains a brief description of the subject area of any rule which the agency expects to promulgate which is likely to have a significant economic impact on a substantial number of small entities (includes municipalities with a population of less than 50,000). Because EPA contends that the CTR does not significantly or uniquely affect small entities, EPA does not believe it is required under the RFA to describe the impact of the proposed rule, which accomplish the stated objectives and which minimize any significant economic impact of the proposed rule on small entities.

The EPA Administrator has certified that the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities. However, because the CTR will in fact have a significant economic impact on a substantial number of small entities, the Administrator's certification can be challenged as being arbitrary and capricious under the Administrative Procedures Act. If that challenge were successful, then the CTR could not be re-promulgated until the required final regulatory flexibility analysis has been completed by the Agency.

Furthermore, any small entity that is adversely affected or aggrieved by final CTR is entitled to judicial review of agency compliance with the requirements of the RFA. The judicial relief possible in a challenge made by a small entity is as follows:

- Remand of the rule, and - Deferred enforcement of the rule against small entities unless the courts find that continued enforcement of the rule is in the public interest.

Response to: CTR-040-056

See response to CTR-001-008b and the preamble of the final rule.

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Comment ID: CTR-041-013b

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: R RFA/SBREFA

References:

Attachments? N

CROSS REFERENCES E-01c; S

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Comment: 8. The proposed Rule is Inconsistent with Applicable Federal Law and Regulations

The proposed rule is inconsistent with applicable Federal law and regulations. In proposing a single set

of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. (See attached Legal Analysis of the Proposed California Toxics Rule) to properly evaluate the rule's economic impacts and in failing to adequately consider alternative criteria for San Francisco Bay Area waters, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act (Id). In failing to properly consider the impacts on small entities, the rule is inconsistent with the Regulatory Flexibility Act (Id).

Thank you for the opportunity to provide comments on this important new rule. Please call if you have any questions regarding our letter.

Response to: CTR-041-013b

With respect to EPA's decision to publish a single set of criteria in the rule, see responses to CTR-035-012a and CTR-036-005 (both responses are in Category C-21; Legal issues). For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see responses to CTR-001-008b, CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a (Category S; Unfunded Mandates Reform Act), and the preamble to the proposed rule.

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Comment ID: CTR-041-017

Comment Author: Sacramento Reg Cnty Sanit Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: R RFA/SBREFA

References:

Attachments? N

**CROSS REFERENCES**

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Comment: 3. The California Toxics Rule is inconsistent with the Regulatory Flexibility Act.

The Regulatory Flexibility Act (RFA, 5 U.S.C. section 601 et seq.) requires that each federal agency, including EPA, publish in the Federal Register twice a year a regulatory flexibility agenda which contains a brief description of the subject area of any rule which the agency expects to promulgate which is likely to have a significant economic impact on a substantial number of small entities (includes municipalities with a population less than 50,000) Because EPA contends that the CTR does not significantly or uniquely affect small entities, EPA does not believe it is required under the RFA to describe the impact of the proposed rule on small entities or to describe any significant alternatives to the proposed rule, which accomplish the stated objectives and which minimize any significant economic impact of the proposed rule on small entities.

The EPA Administrator has certified that the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities. However, because the CTR will in fact have a significant economic impact on a substantial number of small entities, the Administrator's certification can be challenged as being arbitrary and capricious under the Administrative Procedures Act. If that challenge were successful, then the CTR could not be re-promulgated until the required final regulatory flexibility analysis has been completed by the agency.

Furthermore, any small entity that is adversely affected or aggrieved by final CTR is entitled to judicial review of agency compliance with the requirements of the RFA. The judicial relief possible in a challenge made by a small entity is as follows:

- Remand of the rule, and
- Deferred enforcement of the rule against small entities unless the court finds that continued enforcement of the rule is in the public interest.

Response to: CTR-041-017

See response to CTR-001-008b and the preamble to the final rule.

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Comment ID: CTR-043-005c  
Comment Author: City of Vacaville  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: R RFA/SBREFA  
References:  
Attachments? Y  
CROSS REFERENCES C-21; E-01c; S

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Comment: 5. The proposed rule is inconsistent with applicable Federal law and regulations.

In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. The Clean Water Act requires that water quality standards be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes (see CWA section 303(c)(2)(A)). Consistent with this, EPA regulations require that water quality standards be based on identification of "specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern..." For those identified waters, "states must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use"(See 40 CFR 131.1 I (a)(2)). Clearly the intent of both the Act and EPA regulations is that water quality standards be tailored to the characteristics of the waters in question. In failing to properly evaluate the rule's economic impacts and in failing to adequately consider regulatory alternatives, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act. Moreover, in failing to properly consider the impacts on small entities, the rule is inconsistent with the Regulatory Flexibility Act.

Response to: CTR-043-005c

With respect to EPA's decision to publish a single set of criteria in the rule, see responses to CTR-035-012a and CTR-036-005 (both responses are in Category C-21; Legal issues). For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see responses to CTR-001-008b, CTR-021-005c (Category E-01c; Executive Order

12866), CTR-036-xxx (Category S; Unfunded Mandates Reform Act), and the preamble to the proposed rule.

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Comment ID: CTR-044-005f

Comment Author: City of Woodland

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: R RFA/SBREFA

References:

Attachments? Y

CROSS REFERENCES E-01g08; E-01h01; E-01m; E-02c; E-01c02; S

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Comment: We have reviewed the proposed CTR and offer the following comments:

4. EPA's Economic Analysis is seriously flawed. The major flaws include:

(1) failing to do an appropriate sampling of small dischargers having little or no dilution; (2) assuming in the high-end cost scenario that a 25% reduction could be achieved through source control and an additional 25% achieved through treatment plant optimization without capital improvements; (3) constraining estimates of potential costs through key assumptions, including the assumption that regulatory relief from the rule would be granted if costs were in excess of certain thresholds; and (4) exaggerating estimates of potential benefits by assuming an end (i.e., achievement of the proposed water quality criteria) that will not result from the rule. Additional concerns with the economic analysis are presented in Exhibit F. The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated. Moreover, the flawed economic analysis has led to the erroneous conclusion that the CTR is not a "significant regulatory action" or major rule subject to Presidential Executive Order 12866 and the Unfunded Mandates Reform Act or a rule that affects small entities protected under the Regulatory Flexibility Act. The City, for example, is a small community having a population of under 50,000 and would be greatly impacted by the proposed rule.

Response to: CTR-044-005f

See responses to CTR-054-013a, CTR-021-005c, CTR-032-004, CTR-021-008, CTR-040-029a, CTR-059-018 (all comments in Category E-01; CTR Cost Comments), and CTR-036-003a (Category S; UMRA).

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Comment ID: CTR-044-006c

Comment Author: City of Woodland

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: R RFA/SBREFA

References:

Attachments? Y

CROSS REFERENCES C-21; E-01c; S

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Comment: We have reviewed the proposed CTR and offer the following comments:

5. The proposed rule is inconsistent with applicable Federal law and regulations.

In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. The Clean Water Act requires that water quality standards be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes (see CWA section 303(c)(2)(A)). Consistent with this, EPA regulations require that water quality standards be based on identification of "specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern..." For those identified waters, "states must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use"(See 40 CFR 131.11 (a)(2)) (see Exhibit G). Clearly the intent of both the Act and EPA regulations is that water quality standards be tailored to the characteristics of the waters in question. In failing to properly evaluate the rule's economic impacts and in failing to adequately consider regulatory alternatives, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act (Id.). Moreover, in failing to properly consider the impacts on small entities, such as the City, the rule is inconsistent with the Regulatory Flexibility Act (Id.).

Response to: CTR-044-006c

With respect to EPA's decision to publish a single set of criteria in the rule, see responses to CTR-035-012a and CTR-036-005 (both responses are in Category C-21; Legal issues). For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see responses to CTR-001-008b, CTR-036-005c (Category E-01c; Executive Order 12866), CTR-036-003a (Category S; Unfunded Mandates Reform Act), and the preamble to the proposed rule.

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Comment ID: CTR-044-009c

Comment Author: City of Woodland

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: R RFA/SBREFA

References:

Attachments? Y

CROSS REFERENCES C-28; E-01c; S

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Comment: We have reviewed the proposed CTR and offer the following comments:

8. EPA should not adopt criteria for any pollutant where the method detection limit exceeds the objective and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses. The proposed rule includes criteria for a number of constituents where there is insufficient data to determine whether the discharge of such pollutants could reasonably be expected to interfere with the designated uses. EPA has chosen to promulgate criteria for

these constituents even though section 303 (c)(2)(B) of the Clean Water Act requires States to adopt numeric criteria only for constituents "... the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." Clearly, this approach goes beyond the requirements of the Clean Water Act and is therefore unnecessary. Additionally, this approach does not allow EPA to fulfill its duty (under Presidential Order 12866, the Unfunded Mandates Reform Act, and the Regulatory Flexibility Act) to assess the costs, benefits, and impacts of the rule on local government and small entities. While this may be the conservative approach for EPA, it places dischargers throughout the State at risk. As analytical detection limits improve, dischargers may find they are unable to achieve the criteria without costly end-of-pipe controls. But, by then, it will be too late for EPA to evaluate the costs and benefits of the criteria-and-consider alternative criteria. For these reasons, EPA should not adopt criteria for those constituents. If EPA does adopt criteria for those constituents, EPA should evaluate the costs and benefits of toxic criteria, as well as alternative criteria, using worst case assumptions (i.e., assume that discharge levels and ambient levels are at the detection limits).

Response to: CTR-044-009c

See responses to CTR-034-010b and CTR-060-010 (Category C-28; Detection Limits). For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see responses to CTR-001-008b, CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a (Category S; Unfunded Mandates Reform Act), and the preamble to the proposed rule.

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Comment ID: CTR-044-047

Comment Author: City of Woodland

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: R RFA/SBREFA

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: 3. The California Toxics Rule is inconsistent with the Regulatory Flexibility Act.

The Regulatory Flexibility Act (RFA, 5 U.S.C. section 601 et seq.) requires that each federal agency, including EPA, publish in the Federal Register twice a year a regulatory flexibility agenda which contains a brief description of the subject area of any rule which the agency expects to promulgate which is likely to have a significant economic impact on a substantial number of small entities (includes municipalities with a population less than 50,000). Because EPA contends that the CTR does not significantly or uniquely affect small entities, EPA does not believe it is required under the RFA to describe the impact of the proposed rule on small entities or to describe any significant alternatives to the proposed rule, which accomplish the stated objectives and which minimize any significant economic impact of the proposed rule on small entities.

The EPA Administrator has certified that the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities. However, because the CTR will in fact have a

significant economic impact on a substantial number of small entities, the Administrator's certification can be challenged as being arbitrary and capricious under the Administrative Procedures Act. If that challenge were successful, then the CTR could not be re-promulgated until the required final regulatory flexibility analysis has been completed by the agency.

Furthermore, any small entity that is adversely affected or aggrieved by final CTR is entitled to judicial review of agency compliance with the requirements of the RFA. The judicial relief possible in a challenge made by a small entity is as follows:

- Remand of the rule, and - Deferred enforcement of the rule against small entities unless the court finds that continued enforcement of the rule is in the public interest.

Response to: CTR-044-047

See response to CTR-001-008b and the preamble to the final rule.

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Comment ID: CTR-047-004b

Comment Author: City of Santa Fe Springs

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: R RFA/SBREFA

References: Letter CTR-047 incorporates by reference letters CTR-013 and CTR-027.

Attachments? N

CROSS REFERENCES J

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our storm water program:

4. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly by the proposed rule. In California, there are many small communities that are currently co-permittee to MS4 permits. Many of the larger municipalities in California have conducted storm water discharge characterization studies. These studies have shown that there are common pollutants associated with storm-water discharges from urbanized areas that could result in compliance problems with the proposed criteria . Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule, it indicates that there are no small entities to be impacted by the rule, and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to MS4 permits, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis on the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

Response to: CTR-047-004b

See responses to CTR-013-003, CTR-040-004, (Category J; Stormwater Economics), and CTR-001-008b.

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Comment ID: CTR-050-007c

Comment Author: Sonnenschein Nath & Rosenthal

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org: American Petrol

Document Date: 09/26/97

Subject Matter Code: R RFA/SBREFA

References:

Attachments? N

CROSS REFERENCES C-21; E-01c; S

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Comment: IV. EPA Has Not Complied With Applicable Regulatory Review Requirements. There are several significant statutes and executive orders that require EPA to undertake analyses of the costs and benefits of its regulations, and to submit the regulations and analyses to other governmental bodies, including the Office of Management and Budget (OMB) and Congress. Those authorities include the Regulatory Flexibility Act, the Small Business Regulatory Enforcement and Fairness Act (SBREFA), the Unfunded Mandates Reform Act, the Congressional Review Act, and Executive Order 12866 (Regulatory Planning and Review). EPA apparently believes that it does not need to comply with any of those requirements for this rulemaking. (62 Fed. Reg. at 42188-42191). API believes that EPA is required to meet those obligations for the proposed criteria, and that the Agency's rationale for avoiding this responsibility has no legal basis.

EPA supports its decision not to comply with the regulatory review statutes by stating that the proposed criteria "by themselves, do not directly impose economic impacts." (62 Fed. Reg. at 42188). EPA admits that when those criteria are combined with the designated uses that have been adopted by the State, and implemented in permit limits, "there may be a cost to some dischargers." (62 Fed. Reg. at 42188) could be substantial; the Agency itself estimates that the compliance cost could be between \$15 and \$87 million per year. (62 Fed. Reg. at 42189). (That does not include indirect costs to the economy, which would surely put this rule above the \$100 million impact threshold specified in several of the regulatory review statutes listed above.) EPA cannot ignore those costs by creating its own interpretation of those statutes in which only "direct" impacts need be considered. There is no support in the statutory language or legislative history for such a reading, and EPA has cited no such support in its Federal Register notice.

There is another problem with EPA's rationale for avoiding regulatory review: if EPA were right that "indirect" impacts do not trigger those reviews, the impacts of this rulemaking are not really "indirect." Those impacts emerge clearly once the proposed criteria are combined with the State's designated uses. Those designations have already been established, so there is nothing uncertain or indefinite about that aspect of the water quality standards. Then, once the standards are completed, the State must implement

those standards through permit limits. While there are some decisions that the State must make in determining the proper permit limits, which can influence the size of the compliance costs, EPA can readily determine a range of possible costs. In fact, the Agency has already done so, resulting in the \$15 - \$87 million cost range discussed above. While those costs may not be fixed with certainty, they are certainly "direct economic impacts". Therefore, even if the Agency were correct in looking at only "direct" impacts, this rulemaking poses such impacts, and EPA must comply with the statutory requirements to conduct and submit cost and benefit analyses of its proposed criteria.

## V. CONCLUSION

As explained above, EPA's proposal to issue water quality criteria for toxicities in the State of California suffers from serious legal flaws. API urges the Agency to reconsider its intended course of action in light of the issues raised in these and other public comments. If you have any questions regarding these comments, or would like any additional information, please call Theresa Pugh at 202/682-8036.

Response to: CTR-050-007c

See responses to CTR-001-008b, CTR-050-007a (Category C-21; Legal Concerns), CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a (Category S; Unfunded Mandates Reform Act), and the preamble to the proposed rule.

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Comment ID: CTR-052-021c

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: R RFA/SBREFA

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES C-21; E-01c; S

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Comment: C. RECOMMENDATIONS FOR MODIFICATIONS TO THE CTR AND EA

EPA should revise the proposed rule and economics analysis such that they are consistent with applicable Federal law and regulations. In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. In failing to properly evaluate the rule's economic impacts and in failing to adequately consider alternative criteria for San Francisco Bay Area waters, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act. In failing to properly consider the impacts on small entities, the rule is inconsistent with the Regulatory Flexibility Act. Specific citations for these inconsistencies are contained in comments from BADA and CASA/Tri-TAC.

Response to: CTR-052-021c

With respect to EPA's decision to publish a single set of criteria in the rule, see responses to CTR-035-012a and CTR-036-005 (both responses are in Category C-21; Legal issues). For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory

Flexibility Act, see response to CTR-001-008b, CTR-036-005c (Category E-01c; Executive Order 12866), CTR-036-003a (Category S; Unfunded Mandates Reform Act), and the preamble to the proposed rule.

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Comment ID: CTR-054-008d  
Comment Author: Bay Area Dischargers Assoc.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: R RFA/SBREFA  
References:  
Attachments? Y  
CROSS REFERENCES C-02b; C-24; E-01c; S

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Comment: Separate, scientifically defensible, reasonably achievable aquatic life criteria for copper should be adopted for San Francisco Bay, or alternatively EPA should specify in the Preamble implementation policies for copper that will result in reasonable control measures actions. To comply with the Clean Water Act and EPA regulations, EPA is required to consider specific water bodies. To fulfill the spirit of Presidential Executive Order 12866 and the requirements of the Unfunded Mandates Reform Act, EPA is required to evaluate regulatory alternatives based on an analysis of costs and benefits. Based on BADA's analysis of costs and benefits, EPA should either adopt copper criteria that are reasonably achievable or alternatively specify implementation policies that will avoid costly end-of-pipe controls. Potential implementation measures that could be specified include use of the following in calculating effluent limitations: actual dilution based on modeling studies; copper translators; probability of compliance less than 99.9%; and water-effect ratios determined for different segments of the Bay. Unless EPA specifies these or similar implementation policies in the rule, it is possible that the CTR could result in significant costs (\$12 million per year to \$78 million per year) while resulting in minor environmental benefit (a 1% reduction in copper loading to the Bay). In that case, the CTR would violate the Clean Water Act, EPA regulations, Presidential Executive Order 12866, the Unfunded Mandates Reform Act and the Regulatory Flexibility Act. (see the discussion under Item 11 below.)

Response to: CTR-054-008d

See responses to CTR-054-008a (Category C-02b; Copper Aquatic Life), CTR-035-012a and CTR-036-005 (Category C-24; Legal Issues), CTR-021-005c (Category E-01c; Executive Order 12866), CTR-054-013a (Category E-01g3; Cost-Effectiveness Ratio), CTR-001-008b, CTR-036-003a (Category S; Unfunded Mandates Reform Act), and the preamble to the proposed rule.

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Comment ID: CTR-054-051  
Comment Author: Bay Area Dischargers Associati  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: R RFA/SBREFA

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

**CROSS REFERENCES**

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Comment: 3. The California Toxics Rule is inconsistent with the Regulatory Flexibility Act.

The Regulatory Flexibility Act (RFA, 5 U.S.C. section 601 et seq.) requires that each federal agency, including EPA, publish in the Federal Register twice a year a regulatory flexibility agenda which contains a brief description of the subject area of any rule which the agency expects to promulgate which is likely to have a significant economic impact on a substantial number of small entities (includes municipalities with a population less than 50,000). Because EPA contends that the CTR does not significantly or uniquely affect small entities, EPA does not believe it is required under the RFA to describe the impact of the proposed rule on small entities or to describe any significant alternatives to the proposed rule, which accomplish the stated objectives and which minimize any significant economic impact of the proposed rule on small entities.

The EPA Administrator has certified that the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities. However, because the CTR will in fact have a significant economic impact on a substantial number of small entities, the Administrator's certification can be challenged as being arbitrary and capricious under the Administrative Procedures Act. If that challenge were successful, then the CTR could not be re-promulgated until the required final regulatory flexibility analysis has been completed by the agency.

Furthermore, any small entity that is adversely affected or aggrieved by final CTR is entitled to judicial review of agency compliance with the requirements of the RFA. The judicial relief possible in a challenge made by a small entity is as follows:

- Remand of the rule, and - Deferred enforcement of the rule against small entities unless the court finds that continued enforcement of the rule is in the public interest.

Response to: CTR-054-051

See response to CTR-001-008b and the preamble to the final rule.

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Comment ID: CTR-059-002b

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: R RFA/SBREFA

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

**CROSS REFERENCES E-01c; S**

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Comment: The Sanitation Districts disagree with EPA's assertions that the CTR is not a significant regulatory action under Executive Order 12866 or the Unfunded Mandates Reform Act, and that EPA is not required to comply with the Regulatory Flexibility Act because the CTR establishes no requirements

applicable to small entities. We believe the potential costs for POTWs to comply with the CTR criteria would far exceed the \$ 100 million threshold, based on the fact that we estimate that the potential costs for seven Sanitation Districts' facilities to comply with the CTR to be nearly \$150 million per year. Clearly, many of the 304 other POTWs in the State will also incur costs, as will other NPDES permittees, indirect dischargers, stormwater dischargers, and nonpoint sources. Thus, EPA's cost figure of \$15 - \$87 million per year is simply not a credible estimate. Also, it is quite clear that the CTR is likely to adversely affect local governments, including over 40 small communities located in our service area, and that it is significantly different from other federal regulations previously promulgated in California. We believe that EPA has not complied with the mandates of Executive Order 12866, the Unfunded Mandates Reform Act and the Regulatory Flexibility Act. Accordingly, EPA must revise the economic analysis and it must be reviewed by the Office of Management and Budget and then EPA must select the most cost-effective and least burdensome regulatory alternative.

Response to: CTR-059-002b

See responses to CTR-001-008b, CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a (Category S; Unfunded Mandates Reform Act), and the preamble to the proposed rule.

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Comment ID: CTR-059-016

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: R RFA/SBREFA

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES

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Comment: Regulatory Flexibility Act

Contrary to EPA's finding in the Preamble that the CTR "establishes no requirements applicable to small entities (p. 4219 1)," we believe that the NPDES permit requirements and TMDLs that will be based on the CTR criteria will apply to small and large entities alike, because, under Section 301 (b)(1)(C) of the Clean Water Act, EPA and States must establish effluent limitations necessary to meet water quality standards. Although the State of California is a delegated NPDES state, EPA has authority to apply the criteria directly, either by its review and potential veto of state-issued permits, or through direct issuance of permits in cases where it has disapproved a state permit under Section 402 of the Clean Water Act. As pointed out by EPA on p. 42165, the scope of the CTR is to "re-establish criteria for the remaining priority toxic pollutants to meet the requirements of section 303(c)(2)(B) of the CWA." Section 303(c)(2)(B) of the Act requires the establishment of water quality standards for toxic pollutants. Thus, EPA is establishing water quality standards, and NPDES permits subsequently issued must contain effluent limitations necessary to meet water quality standards. Thus, EPA's finding is erroneous, and the CTR will establish requirements applicable to small entities.

Of the 78 cities whose Mayors comprise the Sanitation Districts' Board of Directors, 41 are "small communities" with a population of less than 50,000 people.\*1) It is likely that some or all of these communities would be significantly affected if any or all of the Sanitation Districts' water reclamation

plants were required to install expensive treatment facilities as a result of the CTR. EPA must to comply with the requirements of the Regulatory Flexibility Act to address the impacts on small communities such as these. Most, if not all, of these communities, would also be subject to CTR compliance requirements as a result of their responsibilities as co-permittees under the Los Angeles County Municipal Storm Water NPDES Permit.

Under the requirements of the Regulatory Flexibility Act, we therefore believe that EPA is required to prepare initial and final regulatory flexibility analyses that describe the impact of the proposed rule on small entities, identify any significant alternatives to the proposed rule that accomplish the stated objectives, and describe any significant alternatives to the proposed rule that minimize any significant economic impact of the proposed rule on small entities.

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(\*1)These communities include Vernon, Bradbury, Industry, Irwindale, La Habra Heights, El Segundo, Rolling Hills Estates, Signal Hill, Sierra Madre, Commerce, San Marino, Palos Verdes Estates, Hawaiian Gardens, Santa Fe Springs, Artesia, Hermosa Beach, Lakewood, Lomita, La Canada Flintridge, Duarte, South El Monte, Cudahy, South Pasadena, Maywood, Lawndale, Walnut, La Veme, Temple City, Manhattan Beach, San Ditnas, Bell, West Hollywood, Monrovia, San Gabriel, La Puente, Azusa, Rancho Palos Verdes, Bell Gardens, Covina, and La Mirada.

Response to: CTR-059-016

See response to CTR-001-008b.

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Comment ID: CTR-062-004b

Comment Author: City of Downey

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: R RFA/SBREFEA

References: Letter CTR-062 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES J

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

4. The proposed rule applies to all current and future MS4 discharges, including small communities. The small communities will be significantly impacted by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires the U.S. EPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the U.S. EPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule, it indicates that there are no small entities to be impacted by the rule, and, therefore, the U.S. EPA did not need to complete an analysis required under the Act. The U.S. EPA neglected to address small MS4 communities in California that are currently subject to MS4 permits, and those smaller communities that may be impacted through Phase II. The U.S. EPA should have conducted an analysis on the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the U.S. EPA has complied with the requirements of the Regulatory Flexibility Act.

Response to: CTR-062-004b

See responses to CTR-013-003, CTR-040-004, (Category J; Stormwater Economics), and CTR-001-008b.

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Comment ID: CTR-067-006a  
Comment Author: Ojai Valley Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: R RFA/SBREFA  
References:  
Attachments? N  
CROSS REFERENCES E-01d01

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Comment: \* The EPA should reevaluate their determination under the Regulatory Flexibility Act that the rule will not have a significant economic impact on a substantial number of small entities. OVSD would be classified as a small entity, serving a population of 25,000, and would be significantly affected by the CTR. OVSD would have to further treat our effluent with reverse osmosis in order to comply with proposed CTR criteria, specifically for copper, nickel, zinc, lindane, and trihalomethanes; modifications to the existing plant would result in estimated increased annualized costs of \$1.98 million. These costs are significantly higher than EPA's estimated costs per plant of \$27,000 to \$480,000 per year. In addition, EPA must consider that OVSD's contingent of small businesses potentially will be affected by the proposed rule through increased regulation of their discharges, increased sewer discharge fees, or product bans. Thus we strongly believe that the EPA's Economic Analysis significantly underestimates the potential statewide costs associated with adoption of the CTR and should be revised.

Response to: CTR-067-006a

See response to CTR-001-008b and CTR-045-012b (Category E-01c; Executive Order 12866).

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Comment ID: CTR-071-004b

Comment Author: City of Rosemead  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: R RFA/SBREFA  
References: Letter CTR-071 incorporates by reference letter CTR-013 and CTR-027  
Attachments? N  
CROSS REFERENCES J

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program.

4. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issue as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for small communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule it indicates that there are no small entities to be impacted by the rule, and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis of the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

Response to: CTR-071-004b

See responses to CTR-013-003, CTR-040-004, (Category J; Stormwater Economics), and CTR-001-008b.

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Comment ID: CTR-072-004b  
Comment Author: City of Bell Gardens  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: R RFA/SBREFA

References: Letter CTR-072 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

#### CROSS REFERENCES J

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program.

4. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly impacted by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issue as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for small communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule it indicates that there are no small entities to be impacted by the rule, and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis of the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

Response to: CTR-072-004b

See responses to CTR-013-003, CTR-040-004, (Category J; Stormwater Economics), and CTR-001-008b.

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Comment ID: CTR-073-004b

Comment Author: City of Paramount

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: R RFA/SBREFEA

References: Letter CTR-073 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

#### CROSS REFERENCES J

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program.

4. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits, Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issue as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for small communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule it indicates that there are no small entities to be impacted by the rule, and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis of the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

Response to: CTR-073-004b

See responses to CTR-013-003, CTR-040-004, (Category J; Stormwater Economics), and CTR-001-008b.

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Comment ID: CTR-074-004b

Comment Author: City of San Gabriel

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: R RFA/SBREFEA

References: Letter CTR-074 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES J

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

4. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could

result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule, it indicated that there are no small entities to be impacted by the rule, and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis on the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

Response to: CTR-074-004b

See responses to CTR-013-003, CTR-040-004, (Category J; Stormwater Economics), and CTR-001-008b.

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Comment ID: CTR-075-004b

Comment Author: City of El Monte

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: R RFA/SBREFEA

References: Letter CTR-075 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES J

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program;

4. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly affected by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule, it indicates that there are no small entities to be impacted by the rule, and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis on the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

Response to: CTR-075-004b

See responses to CTR-013-003, CTR-040-004, (Category J; Stormwater Economics), and CTR-001-008b.

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Comment ID: CTR-076-004b

Comment Author: City of Cudahy

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: R RFA/SBREFA

References: Letter CTR-076 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES J

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

4. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly impacted by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharge from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule, it indicates that there are no small entities to be impacted by the rule, and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase

II. The USEPA should have conducted an analysis on the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

Response to: CTR-076-004b

See responses to CTR-013-003, CTR-040-004, (Category J; Stormwater Economics), and CTR-001-008b.

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Comment ID: CTR-078-004b

Comment Author: City of Maywood

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: R RFA/SBREFEA

References: Letter CTR-078 incorporates by reference letter CTR-013

Attachments? N

CROSS REFERENCES J

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

4. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly impacted by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule, it indicates that there are no small entities to be impacted by the rule, and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permit, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis on the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

Response to: CTR-078-004b

See responses to CTR-013-003, CTR-040-004, (Category J; Stormwater Economics), and CTR-001-008b.

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Comment ID: CTR-079-004b

Comment Author: City of Glendale

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: R RFA/SBREFA

References: Letter CTR-079 incorporates by reference letters CTR-013 and CTR-027

Attachments? N

CROSS REFERENCES J

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Comment: In addition, we would like to emphasize the following key issues on the California Toxic Rule (CTR), which are of major impact to our stormwater program:

4. The proposed rule applies to all current and future MS4 dischargers, including small communities. The small communities will be significantly impacted by the proposed rule. In California, there are many small communities that are currently co-permittees to MS4 permits. Many of the larger municipalities in California have conducted stormwater discharge characterization studies. These studies have shown that there are common pollutants associated with stormwater discharges from urbanized areas that could result in compliance problems with the proposed criteria. Most small communities have not conducted discharge characterization studies; however, it is reasonable to assume that discharges from small communities would also contain these same pollutants. This would result in a smaller community being faced with the same compliance issues as large and medium municipalities; however, the cost to comply could be more significant and prohibitive for smaller communities.

The Regulatory Flexibility Act requires the USEPA to conduct an analysis on the economic impact the proposed rule may have on small entities, unless the USEPA certifies that the rule will not affect a significant number of small entities. In the preamble to the proposed rule, it indicates that there are no small entities to be impacted by the rule, and, therefore, the USEPA did not need to complete an analysis required under the Act. The USEPA neglected to address small MS4 communities in California that are currently subject to a MS4 permits, and those smaller communities that may be impacted through Phase II. The USEPA should have conducted an analysis on the economic impacts to smaller communities.

Unless the preamble is modified to indicate that MS4s are not required to comply with water quality standards, the proposed rule should not be applied to smaller MS4 communities until the USEPA has complied with the requirements of the Regulatory Flexibility Act.

Response to: CTR-079-004b

See responses to CTR-013-003, CTR-040-004, (Category J; Stormwater Economics), and CTR-001-008b.

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Comment ID: CTR-092-016b  
Comment Author: City of San Jose, California  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: R RFA/SBREFA  
References: Letter CTR-092 incorporates by reference letter CTR-035  
Attachments? Y  
CROSS REFERENCES E-01c; S

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Comment: Introductory Comment

EPA states in the Executive Summary (page ES-2) to the Economic Analysis that:

"EPA did not calculate costs for any program for which it does not have enforceable authority ... (nor) for NPDES sources which are not typically subject to numeric WQBELs....."

From a national policy perspective, this narrowing, of the focus of the Economic Analysis may be a justifiable approach to cost benefit analysis. Local government, however, is not able to disregard the potential cost effects of the CTR on urban and agricultural runoff. Those potential costs will have to be defrayed with proceeds from the same pool of local rate payers responsible for paying for point source pollutant removal programs. In California, those ratepayers have made clear both their support for environmental protection and their reluctance to pay more than is necessary for that protection. A narrow definition of those costs included in the CTR Economic Analysis continues the pattern of fragmenting responsibility and authority for the protection of waterways, which in turn hinders creation and implementation of holistic strategies which would best serve the environment at least cost.

Questions for EPA on the Introductory Comment

Q.-1) If not EPA, who has the responsibility to define the aggregated costs of all water quality-related regulations?

Q.-2) San Jose's reading of federal policy initiatives (which include, but are not limited to, the Regulatory Flexibility Act, Executive Order 12866, and the Unfunded Mandates Reform Act) indicates that EPA is empowered to analyze the economic impact of federal regulations in a way that addresses both aggregated cost impacts as well as the fiscal reality of local level government. Why was this not accounted for in the current analysis?

Response to: CTR-092-016b

See responses to CTR-001-008b, CTR-021-005c (Category E-01c; Executive Order 12866), CTR-021-006b (Category E-01c; Executive Order 12866), CTR-036-003a (Category S; Unfunded Mandates Reform Act), and the preamble to the proposed rule.

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Comment ID: CTR-096-004b  
Comment Author: City of Modesto  
Document Type: Local Government

State of Origin: CA  
 Represented Org:  
 Document Date: 09/25/97  
 Subject Matter Code: R RFA/SBREFA  
 References:  
 Attachments? N  
 CROSS REFERENCES G-10

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Comment: Thank you for the opportunity to comment on the proposed California Toxics Rule. The City's comments are related to five main concepts:

4. The environmental consequences of the necessary treatment facilities and changes in operating practices to meet these discharge standards is very significant and has not been addressed in promulgating the proposed rule.

Specifically, the City submits the following comments:

F. A comparison of the Water Quality Standards (WQS) used by its City during the Local Limits Study and the proposed WQS is shown in Table 1. There is a little variation in limits for cadmium, copper, nickel, and zinc as these values are dependent on receiving stream hardness. The values shown in Table I for the City were developed using a hardness of 170 mg/l as CaCO<sub>3</sub> while the standards from the CTR are based on 100 mg/l as CaCO<sub>3</sub>. The WQS from the CTR are actually expressed as dissolved fractions. A factor of 1.7 has been used to convert from dissolved to total fractions for the comparison to take place.

Table 1

Comparison of Water Quality Standards

	City Report		WQS		1996		1997		-----
	Chronic	Acute	Chronic	Acute					
Arsenic, ppb	190.0	360.0	150.0	340.0	Cadmium, ppb	1.7	7.1	2.2	
4.3 Chromium, ppb	10.0	15.0	11.0	16.0	Copper, ppb	19.0	29.0	9.0	
13.0 Nickel, ppb	250.0	2200.0	52.0	470.0	Zinc, ppb	170.0	180.0		
120.0 120.0 Mercury, ppb		N/A	2.1	.77	1.4				

Table 1 indicates that the City's Local Limits for arsenic, cadmium, chromium, and zinc would have little difficulty meeting the CTR. However, limits for copper, nickel and mercury may be drastically impacted. This impact in developing a stricter local limit may result in an economic hardship to many small business enterprises that currently do metal plating. These businesses may be forced to close down due to the implementation of these limits. Modesto experiences a chronic unemployment rate above 12%, and economic development is critical to this community.

Response to: CTR-096-004b

See response to CTR-096-004a (Category G-10; Pretreatment).

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Comment ID: CTRE-003-001c  
Comment Author: Bay Planning Coalition  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 09/09/97  
Subject Matter Code: R RFA/SBREFA  
References:  
Attachments? N  
CROSS REFERENCES B; J

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Comment: The Bay Planning Coalition represents approximately 200 maritime industry, shoreline businesses, local governments and Bay users along the S.F. Bay shoreline and is most significantly affected by the proposed California Toxics Rule. One of our primary interests is the economic analysis which under the EPA's model estimates a range of annual costs of \$14.9 to \$86.6 million.

We believe the annual costs for implementation of the Rule statewide exceed the EPA estimate range. We are particularly concerned because it appears that the economic impact analysis did not include the costs of compliance for the NPDES stormwater permit applicants. In order for us to provide EPA with sufficient detail on our economic analysis and cost projection as well as the impact of the Rule on small business under the Regulatory Flexibility Act, we request an extension of time to respond. A 30-day extension from September 26 to October 27, 1997 would be acceptable. Thank you so much for your consideration.

Response to: CTRE-003-001c

See responses to CTR-013-003, CTR-040-004, (Category J; Stormwater Economics), CTR-001-008b, and CTR-001-001 (Category B; Comment Period).

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Comment ID: CTRH-001-005b  
Comment Author: Alan Waltner  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Alameda Cnty Clean Wtr Pgm  
Document Date: 09/17/97  
Subject Matter Code: R RFA/SBREFA  
References:  
Attachments? N  
CROSS REFERENCES J-2

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Comment: If you go beyond best management practices, you're impliedly eliminating those provisions of the 1995 Basin Plan. I think it would clearly violate the Regulatory Flexibility Act, since you haven't considered the costs of controls.

If, again, our dischargers had to do whatever it took, our members had to do whatever it took -- and in fact, several of our dischargers are small entities under the Regulatory Flexibility Act: the City of

Emeryville, the City of Albany, the City of Piedmont.

The NPDES permits small entities and municipalities under 50,000 in number. If they had to do whatever it took to provide the waste allocations without consideration of the economic impact, those entities, because of the practical problems of needing 50 coliseums of storage in the Bay Area and the practical considerations that plague us -- and the only place you could put that is by the bay, where you have a serious problem with requirements under the Endangered Species Act.

To the extent you're standing in the shoes of the state in promulgating these standards, you violate the cost/benefit balances provision of the Porter Cologne Act.

Response to: CTRH-001-005b

With respect to EPA's compliance with the RFA see response to CTR-001-008b. With respect to stormwater costs see response to CTR-013--003 and CTR-04-004 (Category J; Stormwater Economics). With respect to commenters' assertion that EPA violated the cost/benefit provision of the Porter-Cologne Act, see response to CTR-020-002 (Category C-21; Legal Issues).

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Comment ID: CTRH-001-008a  
Comment Author: Doug Harrison  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Fresno Met. Flood Control  
Document Date: 09/17/97  
Subject Matter Code: R RFA/SBREFA  
References:  
Attachments? N  
CROSS REFERENCES J-2

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Comment: Looking at the results of our monitoring and your criteria, we'll have to achieve another 70 to 90 percent reduction in pollutants in order to be in compliance. That means we'd have to increase our storage volume to 20,000 acre feet just to handle average annual runoff we have underway right now.

That's a price tag of \$220 million to \$400 million to try to stay in compliance with the current criteria if you interpret the rule to apply to us -- 220 million. And then we can't prevent major storm events in our community, storm impacts that cause a discharge, in which case 100 percent of the discharges would exceed -- would be out of compliance, even though we were retaining 100 percent of the average annual rainfall.

We think that raises a problem with the Regulatory Flexibility Act, both in terms of the cost analysis itself and the impact that accrues to small communities, certainly with respect to the executive order. Just in our case alone the \$100 million limit is in serious trouble, dealing with compliance with a five-year schedule just in our community with the possibility of \$80 million per year of expense. That does not include O & M cost in that system.

Response to: CTRH-001-008a

See responses to CTR-013-003, CTR-040-004, (Category J; Stormwater Economics), CTR-021-005c

(Category E-01c; Executive Order 12866), and CTR-001-008b.

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Subject Matter Code: S UMRA

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Comment ID: CTR-005-006b  
Comment Author: Novato Sanitary District  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/23/97  
Subject Matter Code: S UMRA  
References:  
Attachments? Y  
CROSS REFERENCES C-21; R

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Comment: 5. The proposed rule is inconsistent with applicable Federal law and regulations. In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. The Clean Water Act requires that water quality standards be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and also taking into consideration their use and value for navigation (See CWA section 303(c)(2)(A)). Consistent with this, EPA regulations require that water quality standards be based on identification of where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern. For those identified waters, states must adopt criteria for such toxic pollutants applicable to sufficient to protect the designated use"(See 40 CFR 131.1 1 (a)(2)).

Clearly the intent of both the Act and EPA regulations is that water quality standards be tailored to the characteristics of the waters in question. In failing to properly evaluate the rule's economic impacts and in failing to adequately consider regulatory alternatives, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act. In failing to properly consider the impacts on small entities, the rule is inconsistent with the Regulatory Flexibility Act.

Response to: CTR-005-006b

With respect to EPA's decision to publish a single set of criteria in the rule, see responses to CTR-035-012a and CTR-036-005 (both responses are in Category C-21; Legal issues). For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see responses to CTR-001-008b (Subject R, Regulatory Flexibility Act), CTR-036-005c (Category E-01c; Executive Order 12866), CTR-036-003a, and the preamble to the proposed rule.

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Comment ID: CTR-019-002b  
Comment Author: Richards, Watson & Gershon  
Document Type: Local Government  
State of Origin: CA  
Represented Org: Cities of Barst  
Document Date: 09/26/97  
Subject Matter Code: S UMRA  
References: Letter CTR-019 incorporates by reference letters CTR-001, CTR-013, CTR-027 and CTR-036  
Attachments? N

## CROSS REFERENCES J

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### Comment: UNFUNDED MANDATED PROGRAMS

One of the express purposes of the Unfunded Mandates Reform Act of 1995 is "to end the imposition, in the absence of full consideration of Congress of Federal mandates on State, local and tribal governments without adequate Federal funding, in a manner that may displace other essential State, local and tribal governmental priorities." 2 U.S.C. section 1501(2). The proposed rule in its current form seems to have been drafted without regard to its fiscal impact on cities. The rule could require treatment of storm water discharges, despite the fact that no funding mechanism, nor any assistance, financial or otherwise, is being provided to the cities by either USEPA or the State of California. If the USEPA wishes to impose these treatment programs, it needs to provide funds to pay for their implementation.

We believe that USEPA's analysis under the Unfunded Mandates Reform Act of 1995 that the CTR will not result in an expenditure in the aggregate of more than \$100,000,000.00 a year is wrong. As pointed out by other local government entities which have submitted comments, the USEPA appears to assume that a BMP program will lead to compliance with numeric effluent guidelines and that there will be no associated additional costs for the BMP program. However, the economic analysis does not appear to analyze the potential cost of end of pipe treatment controls and analyze in any sort of detail what sort of BMP's would be necessary to achieve numeric effluent guidelines for the toxic pollutants. The economic analysis itself acknowledges that under its existing NPDES stormwater permit, the cities and counties of the Los Angeles area plan to spend \$15,000,000 annually on public education in a program to curb illegal dumping. That cost estimate was based upon the analysis by the SWRCB of the 1990 permit. The actual costs of implementing all of the programs under the 1990 permit have been considerably more. For example, the cost estimates prepared by the San Gabriel Valley COG in connection with the LA. County permit, estimated implementation costs at \$8.98 per person per year. The City of Long Beach estimated that it was already spending, as of early 1996, \$12.4 million a year and that the estimated costs of implementing the programs under the current permit adopted in July 1996 would be another \$3.4 million or about \$16.1 million total. That number extrapolated to approximately \$38.35 per person per year. The comparative cost numbers prepared by the Santa Monica Bay Restoration Project in connection with the existing Los Angeles permit estimated an average cost of dedicated stormwater program funding of \$3.34 a month per household or approximately \$13.36 per person per year. Using that number as a base, a city with a population of approximately 40,000 people can expect to spend \$500,000 a year under its current stormwater programs. Extrapolating those numbers over the State of California, it is quite clear that the costs of implementing the existing stormwater program are in the hundred of millions of dollars a year.

Considering these economic analyses, it is quite clear that the financial impact of requiring end of pipe treatment controls or other means to achieve numeric effluent guidelines would quite easily exceed \$100 million a year.

The foregoing numbers, of course, do not include potential increased costs to residents, business and industry complying with the discharge prohibitions and other requirements under the "City's current municipal permits nor does the EPA's economic analysis calculate the potential costs to regulated dischargers, that is, business and industries required to either obtain an individual NPDES stormwater permit or who are covered under a general permit by filing a notice of intent.

Necessarily, the expenditure of such large amounts of money is an important public policy question, particularly in a situation where neither the State of California nor the federal government has been

willing to provide any meaningful source of funds to local agencies to carry out these programs.

Response to: CTR-019-002b

See responses to CTR-013-003 (Category J; Stormwater Economics) and CTR-036-003a (Category S; Unfunded Mandates Reform Act).

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Comment ID: CTR-021-005e

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: S UMRA

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES C-13; C-28; E-01c; R

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Comment: It is with a sense of reluctance that Sunnyvale joins in CASA/Tri-TAC's adverse comments on the CTR and the EA, and Sunnyvale does so in a spirit of constructive criticism and with an expectation that the Agency will make the necessary adjustments in its approach towards the CTR before the final rule is promulgated. In addition, in the same spirit and with the same expectation, Sunnyvale would like to make the following points on its own behalf:

2. **Obligation to Assess Alternative Cancer Risk Levels for Human Health-Based Criteria.** Sunnyvale is gravely concerned that EPA has used the wrong approach in proposing to establish human health criteria for organic pollutants, particularly those pollutants for which the proposed criteria are below the method level of detection ("MDL"). Sunnyvale recommends that EPA should thoroughly assess all of the potential impacts, including costs and benefits, of the 10E-4 and 10E-5 risk levels before proposing the human health-based criteria. As pointed out in the EOA Letter, there is a significant potential for advancing technology to lower the MDL for many pollutants to the point where laboratory equipment is able to measure some or all of the organic compounds for which EPA is proposing to establish criteria at the new level. It is intuitively obvious that the costs of attaining criteria set at the 10E-6 level will be significantly greater than attainment of a 10E-5 or 10E-4 level, particularly where, as pointed out in the EOA Letter, the only available method of treatment is granular activated carbon. Sunnyvale is concerned that the EA does not adequately address the potential for these costs, and, consequently, does not take these potential costs into account in determining whether to exercise its flexibility in choosing whether to use a 10-4 , 10-5 or 10-6 cancer risk level as the basis for its CTR promulgation.

EPA is required by Executive Order 12866, the Regulatory Flexibility Act and the Unfunded Mandates Reform Act to identify and analyze alternatives to a proposed rule. We cannot understand, therefore, why EPA has done such a cursory analysis in the preamble to the CTR and the EA of the alternatives to the use of the most stringent (10E-6) risk level for establishing criteria for human health effects of pollutants, particularly organic pollutants. EPA cannot base its selection of the 10E-6 level based upon previous regulatory pronouncements by the State of California. Any new determination by the State will be subject to the analytical requirements of Section 13241 of the Porter-Cologne Act and by review by the Office of Administrative Law. Thus, it is not a foregone conclusion that the State will ultimately select the 10E-6 level. EPA has its own legal requirements to fulfill. Accordingly, we ask that EPA not

promulgate the final human health criteria for the pollutants of concern unless and until it has adequately analyzed the costs and other implications of the various alternatives to the 10E-6 level.

In conclusion, we are entirely supportive of many of EPA's innovative approaches towards development of the CTR, particularly as regards the toxic metals. However, we believe that EPA has needlessly failed to comply with many of its legal obligations, particularly as regards the development of human health-based criteria on cancer risk levels of organic pollutants. We urge the Agency to reconsider its position in the matters covered by this letter (as amplified by the EOA Letter) and the CASA/Tri-TAC letter. Sunnyvale pledges its continued participation in place-based watershed management planning in the South Bay, its cooperation with the Agency in making a success of the WPI, and to an ongoing effort by the Agency and others to reach water quality goals in the South Bay. We thank you for the opportunity to comment on the proposed CTR.

Response to: CTR-021-005e

For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see responses to CTR-001-008b (Category R; Regulatory Flexibility Act), CTR-036-005c (Category E-01c; Executive Order 12866), CTR-036-003a, and the preamble to the proposed rule.

With respect to detection limits see responses to CTR-034-010b and CTR-060-010 (Category C-28; Detection Limits). With respect to the selection and economic analysis of risk levels for carcinogens see responses to CTR-021-005a (Category C-13; Risk Level) and CTR-021-005c (Category E-01c; Executive Order 12866).

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Comment ID: CTR-021-006d

Comment Author: LeBoeuf, Lamb, Green & MacRae

Document Type: Local Government

State of Origin: CA

Represented Org: City of Sunnyvale

Document Date: 09/25/97

Subject Matter Code: S UMRA

References: Letter CTR-021 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES J; E-01c; R; I-01

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Comment: It is with a sense of reluctance that Sunnyvale joins in CASA/Tri-TAC's adverse comments on the CTR and the EA, and Sunnyvale does so in a spirit of constructive criticism and with an expectation that the Agency will make the necessary adjustments in its approach towards the CTR before the final rule is promulgated. In addition, in the same spirit and with the same expectation, Sunnyvale would like to make the following points on its own behalf:

3. Failure to Address Important Stormwater-Related Issues. In addition to its POTW, Sunnyvale is the owner of a system of storm drains which contribute wet weather flows to the South Bay. We are concerned that the EA entirely neglects the potential impacts of the proposed CTR on the storm drains. The EA entirely omits any meaningful analysis of the costs of bringing storm drains into compliance with the proposed CTR, thereby significantly understating the overall costs of the CTR. We believe that this omission is violative of the Agency's legal obligations under the authorities cited in the preceding

paragraph.

In addition, we join in the comments being filed by the various other operators of stormwater collection systems to the effect that EPA has overstated the legal requirements for storm drains to comply with numerical criteria.

Response to: CTR-021-006d

For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see responses to CTR-001-008b (Category R, RFA), CTR-036-005c (Category E-01c; Executive Order 12866), CTR-036-003a, and the preamble to the proposed rule.

EPA believes it properly described the potential impact of the implementation of the CTR on storm drains in the preamble to the proposed CTR and in its Economic Analysis. For further discussion see responses to CTR-013-003 and CTR-040-004 (Category J; Stormwater Economics).

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Comment ID: CTR-034-004

Comment Author: SCAP

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: S UMRA

References: Letter CTR-034 incorporates by reference letter CTR-035

Attachments? N

CROSS REFERENCES

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Comment: LEGAL ISSUES - Executive Order 12866, Unfunded Mandates Reform Act, Regulatory Flexibility Act

\* SCAP believes that EPA has failed in its duties under the Unfunded Mandates Reform Act to consider the cost of the proposed regulation to local governments and the regulated community and to select the most cost-effective and least burdensome regulatory alternative that achieves the objectives of the rule and is consistent with statutory requirements. Although EPA prepared an assessment of the anticipated costs and benefits of the CTR, we believe that the economic analysis failed to consider major factors contributing to potential costs and substantially overstated the anticipated benefits of the rule (see below).

Response to: CTR-034-004

See response to CTR-036-003a.

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Comment ID: CTR-035-040

Comment Author: Tri-TAC/CASA

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97  
Subject Matter Code: S UMRA

References:

Attachments? N

CROSS REFERENCES

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Comment: p. 42191 -- The Unfunded Mandates Reform Act of 1995 All local governmental agencies, especially "small agencies" within the meaning of the Unfunded Mandates Reform Act (2 U.S.C.A. 1511 et. seq.) deserve the protections afforded by that Act. EPA's claim that the Act does not apply because "Today's proposed rule does not regulate or affect any entity" is unfounded. The claim is that the CTR may not impose costs greater than \$100 million a year is without merit (see discussion below). The CTR directly impacts all NPDES holders in the State of California, as stated above. Accordingly, all of its provisions apply to the CTR, including, without limitation, the requirement found in Section 1533(a)(2) that the Agency's required small government agency plan provide for "meaningful and timely input" into the development of the CTR. As stated earlier, the failure of EPA to allow CASA/Tri-TAC members the opportunity to review the State Proposal for any longer than two weeks simply does not meet a common sense interpretation of "meaningful and timely review." EPA must comply with the Act.

Response to: CTR-035-040

See response to CTR-036-003a.

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Comment ID: CTR-036-003a

Comment Author: County of Orange

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: S UMRA

References: Letter CTR-036 incorporates by reference letters CTR-013, CTR-018, CTR-031, CTR-034 and CTR-040

Attachments? N

CROSS REFERENCES J

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Comment: EPA also has failed to meet its obligations under the Unfunded Mandates Reform Act of 1995 (the "Reform Act"). As with E.O. 12866, the Reform Act requires federal agencies to assess the effects of their regulatory actions on state, local and tribal governments, and on the private sector [U.S.C. section 1531]. Among other things, the Reform Act requires the preparation of a cost-benefit analysis and the examination of a range of alternatives, whenever the proposed action may result in expenditures in excess of \$100 million [2 U.S.C. section 1532, 1535]. In addition, the Reform Act contains a number of specific requirements where an action may significantly or uniquely impact small governments [2 U.S.C. section 1533].

EPA asserts again that it does not have to comply with the Reform Act because the proposed rule "imposes no direct enforceable duties on the State or any local government or on the private sector." [62 Fed. Reg 42160, 42191]. For the reasons discussed earlier, this assertion is without merit. As EPA acknowledges, these criteria will serve as the basis for any water quality standards promulgated by the State, which in turn will be binding on local government and private industry. Unless EPA is prepared

to view these criteria as being optional, it therefore cannot in good conscience state that they do not create an enforceable duty. Given this, EPA must comply with the mandates of the Reform Act

Response to: CTR-036-003a

EPA has determined that the CTR contains no federal mandates (under the regulatory provisions of title II of the Unfunded Mandates Reform Act) for State, local, and tribal governments or the private sector. The CTR imposes no direct enforceable duties on the State or any local government or on the private sector; rather, the CTR promulgates ambient water quality criteria which, when combined with State-adopted uses, will create water quality standards for those water bodies with adopted uses. The State will then use these resulting water quality standards in implementing its existing water quality control programs.

EPA recognizes that it has undertaken an economic analysis pursuant to E.O. 12866 for this rule. This analysis, however, makes numerous assumptions and does not necessarily predict how the state will implement the criteria. Thus, the economic analysis represents EPA's best estimate of the implementation costs of the rule. In any event, even if EPA were to consider the implementation costs rather than the direct costs of the rule for the purposes of UMRA compliance, EPA has determined that this rule will not result in expenditures of \$100 million or more for State, local, or tribal governments, in the aggregate, or the private sector in any one year.

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Comment ID: CTR-038-005c

Comment Author: Sonoma County Water Agency

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: S UMRA

References:

Attachments? Y

CROSS REFERENCES E-01c; R

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Comment: A further consequence of the flawed economic analysis is the conclusion that the CTR is not a major rule (i.e., one which will result in excess of \$100 million per year expenditure) subject to Presidential Executive order 12866 and the Unfunded Mandates Reform Act or a rule that affects small entities protected under the Regulatory Reform Act. The District, for example, is a small community having a population of under 50,000 and, in addition, serves several small towns and communities (Sonoma, Glen Ellen, Boyes Hot Springs and Agua Caliente) that would be greatly impacted by the proposed rule.

Response to: CTR-038-005c

See responses to CTR-001-008b (Category R; RFA), CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a, and the preamble to the proposed rule.

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Comment ID: CTR-038-006d

Comment Author: Sonoma County Water Agency

Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: S UMRA  
References:  
Attachments? Y  
CROSS REFERENCES C-21; E-01c; R

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Comment: 5. The proposed rule is inconsistent with applicable Federal law and regulations. In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. The Clean Water Act requires that water quality standards be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, and recreational purposes (see CWA section 303(c)(2)(A)). Consistent with this, EPA regulations require that water quality standards be based on identification of "specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern..." For those identified waters, "states must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use" (See 40 CFR 131.11(a)(2)). Clearly the intent of both the Clean Water Act and EPA regulations is that water quality standards be tailored to the characteristics of the waters in question. In failing to properly evaluate the rule's economic impacts and in failing to adequately consider regulatory alternatives, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act. Moreover, in failing to properly consider the impacts on small entities, such as the District and the small communities it serves, the rule is inconsistent with the Regulatory Flexibility Act.

Response to: CTR-038-006d

With respect to EPA's decision to publish a single set of criteria in the rule, see responses to CTR-035-012a and CTR-036-005 (both responses are in Category C-21; Legal issues). For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see responses to CTR-001-008b (Category R; RFA), CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a, and the preamble to the proposed rule.

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Comment ID: CTR-038-008d  
Comment Author: Sonoma County Water Agency  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: S UMRA  
References:  
Attachments? Y  
CROSS REFERENCES C-24; E-01c; R; T

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Comment: 7. Separate, sites-specific aquatic life criteria for copper and human health criteria for mercury should be adopted for Schell Slough, or alternatively EPA should specify implementation procedures for these criteria that will preclude unreasonable controls such as end-of-pipe treatment. To comply with the Clean Water Act and EPA regulations, EPA should consider specific water bodies. To

fulfill the spirit of Presidential Executive Order 12866 and the requirements of the Unfunded Mandates Reform Act and the Regulatory Flexibility Act, EPA should evaluate regulatory alternatives based on an analysis of costs and benefits. Based on the assessment of costs and benefits described in "3" above, EPA should either adopt the criteria that is currently achieved, or alternatively specify implementation procedures that would allow the current discharge to continue (e.g., allowable Mixing zones and averaging periods and, for copper, a translator and water-effect ratio). Again, the District is amenable to continuing to address these constituents through pollution prevention measures and to assessing the actual impacts of these constituents in Schell Slough. Without EPA specifying such implementation procedures in the CTR, it is possible that the CTR could impose significant costs on the District (and the other small communities its serves) without providing a commensurate environmental benefit. In that case, the CTR would be inconsistent with the Clean Water Act, EPA regulations, Presidential Executive Order 12866, the Unfunded Mandates Reform Act and the Regulatory Flexibility Act.

Response to: CTR-038-008d

See response to CTR-038-008a (Category C-24; Site-Specific Criteria). See response to CTR-034-010b and CTR-060-010 (Category C-28; Detection Limits). For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see responses to CTR-001-008b (Category R; RFA), CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a, and the preamble to the proposed rule.

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Comment ID: CTR-038-009d

Comment Author: Sonoma County Water Agency

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: S UMRA

References:

Attachments? Y

CROSS REFERENCES C-28; E-01n; R

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Comment: 8. EPA should not adopt criteria for any pollutant where the method detection limit exceeds the objective and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses. The proposed rule includes criteria for a number of constituents where there is insufficient data to determine whether the discharge of such pollutants could reasonably be expected to interfere with the designated uses. EPA has chosen to promulgate criteria for these constituents even though section 303 (c)(2)(B) of the Clean Water Act requires States to adopt numeric criteria only for constituents "...the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." Clearly, this "play-it-safe" approach goes beyond the requirements of the Clean Water Act and is therefore unnecessary. By taking this approach, however, EPA is unable to fulfill its duty (under Presidential Order 12866, the Unfunded Mandates Reform Act, and the Regulatory Flexibility Act) to assess the costs, benefits, and impacts of the rule on local government and small entities. While this may be the conservative approach for EPA, it places dischargers throughout the State at risk. As analytical detection limits improve, dischargers may find they are unable to achieve the criteria without costly end-of-pipe controls. But, by then, it will be too late for EPA to evaluate the costs and benefits of the criteria and alternative criteria. For these reasons, EPA

must not adopt criteria for those constituents. If EPA does adopt criteria for those constituents, EPA must evaluate the costs and benefits of the criteria, as well as alternative criteria, using worst case assumptions (i.e., assume that discharge levels and ambient levels are at the detection limits). With respect to the District's discharge and Schell Slough and Second Napa Slough, the criteria in this category include, but are not necessarily limited to, the following : benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, aldrin, 4,4'-DDD, 4,4'-DDE, dieldrin, endosulfan I, endosulfan II, endosulfan sulfate, heptachlor, heptachlor epoxide, toxaphene, PCB-1016, OCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, PCB-1260, and hexachlorobenzene (see Table 3).

Response to: CTR-038-009d

See responses to CTR-034-010b and CTR-060-010 (Category C-28; Detection Limits).

For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see responses to CTR-001-008b (Category R; RFA), CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a, and the preamble to the proposed rule.

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Comment ID: CTR-040-009b

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: S UMRA

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES R

E-01c

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Comment: MAJOR CONCERNS

We do, however, have fundamental concerns with the Rule as it is presently proposed and its supporting economic analysis. We believe the Rule can be modified in a manner that will be responsive to our concerns while at the same time being consistent with applicable Federal law and regulations. Our major concerns are presented here and are followed by our recommended modifications.

II. Concern: The economic analysis upon which the Rule is based is seriously flawed.

\* A consequence of the cost/benefit analysis of the Rule are several erroneous conclusions, namely that: (1) this is not a "significant regulatory action" or a major rule (i.e., one which will result in excess of \$100 million annual expenditure) subject to the requirements contained in Presidential Executive Order 12866 and the Unfunded Mandates Reform Act; and (2) this is not a rule that will have a significant economic impact on a substantial number of small entities protected under the Regulatory Flexibility Act.

Response to: CTR-040-009b

See responses to CTR-001-008b (Category R; RFA), CTR-021-005c (Category E-01c; Executive Order

12866), CTR-036-003a, and the preamble to the proposed rule.

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Comment ID: CTR-040-012b

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: S UMRA

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES E-01c

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Comment: MAJOR CONCERNS

We do, however, have fundamental concerns with the Rule as it is presently proposed and its supporting economic analysis. We believe the Rule can be modified in a manner that will be responsive to our concerns while at the same time being consistent with applicable Federal law and regulations. Our major concerns are presented here and are followed by our recommended modifications.

III. Concern: The proposed Rule violates applicable Federal law and regulations

\* In failing to properly evaluate the Rule's impacts and in failing to adequately consider regulatory alternatives, the Rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act (See Attachment B).

Response to: CTR-040-012b

See responses to CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a, and the preamble to the proposed rule.

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Comment ID: CTR-040-015a

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: S UMRA

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES C-13

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Comment: RECOMMENDED MODIFICATIONS

To address our concerns, we recommend the following modifications which do not undermine the toxic pollutant control actions envisioned in EPA's economic analysis (e.g., BMPs for stormwater and source

control). In fact, some of these recommendations would provide incentives for greater movement toward achieving the water quality criteria than would occur under the Rule as it is currently proposed.

II. Recommendation: Adopt human health criteria for PAHs at a 10 (-4) risk level and human health criteria for other carcinogens at risk levels that are generally achieved by municipal wastewater and stormwater dischargers.

\* As previously stated, the Sacramento Stormwater Management Program would have to expend on the order of \$260 million per year to treat stormwater, and this may not achieve the proposed criteria for PAHS, which is based on a 10 (-6) cancer risk level.

\* Under the Unfunded Mandates Reform Act, EPA must adopt the least cost alternative for complying with the CWA, unless the Administrator explains in the final rule why the least cost alternative is not adopted. As indicated in the Preamble, risk levels of 10 (-5) and 10 (-4) are acceptable under the CWA.

\* Therefore, pursuant to the spirit of the Unfunded Mandates Reform Act, EPA should adopt the PAH criteria at a 10 (-4) risk level. The same should be true for other carcinogens that present attainability problems for dischargers. Most carcinogenic constituents are not readily controllable through source control or BMPs and would generally require end-of-pipe controls to achieve significant reduction. The benefits associated with additional reduction of carcinogenic constituents are not expected to be measurable since, as acknowledged in the economic analysis, point sources are relatively minor sources of these constituents.

Response to: CTR-040-015a

See responses to CTR-058-001 (Category C-13; Risk Level), CTR-013-003 (Category J; Stormwater Economics) and CTR-036-003a.

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Comment ID: CTR-040-055

Comment Author: County of Sacramento Water Div

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: S UMRA

References: Letter CTR-040 incorporates by reference letter CTR-027.

Attachments? Y

**CROSS REFERENCES**

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Comment: b. Unfunded Mandates Reform Act

Under the Unfunded Mandates Reform Act (UMRA, 2 U.S.C. section 1501 et seq.), EPA is required to consider the cost of a proposed regulation to both state and local Governments and the regulated community. EPA is required to prepare a qualitative and quantitative assessment of the anticipated costs and benefits of the Federal mandate and to select the most cost-effective and least burdensome regulatory alternative that achieves the objectives of the rule and is consistent with statutory requirements. EPA has performed an economic analysis, however, EPA contends that the cost of the CTR will not result in expenditures in the aggregate "of \$100 million or more in any one year" necessary to trigger the other

requirements of the UMRA.

EPA only makes a limited analysis of alternatives and does not explicitly defend the rule's cost-effectiveness because it contends that does not apply because the \$100 million cut off was not met (\*3). Based on the cost research performed by the POTWs and other dischargers, EPA's contention that UMRA's requirements do not apply may be challengeable. The regulated community may also be able to demonstrate that the Administrator was arbitrary and capricious by alleging the cost of implementing the CTR will not result i expenditures in the aggregate" of \$100 million or more in any one year."

EPA should have considered alternatives, such as the adoption of less stringent criteria or different risk levels (e.g., 10E-4 or 10E-5), that could also achieve the objectives of the rule. These alternatives would have met both the UMRA criteria of being more cost-effective and less burdensome while still maintaining consistency with the Clean Water Act.

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(\*3) "EPA has determined that this rule does not contain a federal mandate that may result in expenditures by State, local, and tribal governments, in the aggregate, or by the private sector, of \$100 million or more in any one year. The proposed rule imposes no direct enforceable duties on the State or any local government or on the private sector; rather, this rule proposes ambient water quality criteria which, when combined with State adopted designated uses, will create water quality standards for those water bodies with adopted uses. The State may use these resulting water quality standards in implementing its existing water quality control programs. Today's proposed rule does not directly regulate or affect any entity and, therefore, is not subject to the requirement of sections 202 and 205 of the UMRA." 62 Fed. Reg. 41,191.

Response to: CTR-040-055

See response to CTR-036-003a.

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Comment ID: CTR-041-013c  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: S UMRA  
References:  
Attachments? N  
CROSS REFERENCES E-01c; R

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Comment: 8. The proposed Rule is Inconsistent with Applicable Federal Law and Regulations

The proposed rule is inconsistent with applicable Federal law and regulations. In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. (See attached Legal Analysis of the Proposed California Toxics Rule) to properly evaluate the rule's economic impacts and in failing to adequately consider alternative criteria for San Francisco Bay Area waters, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act (Id). In failing to properly consider the impacts on small entities, the

rule is inconsistent with the Regulatory Flexibility Act (Id).

Thank you for the opportunity to provide comments on this important new rule. Please call if you have any questions regarding our letter.

Response to: CTR-041-013c

With respect to EPA's decision to publish a single set of criteria in the rule, see responses to CTR-035-012a and CTR-036-005 (both responses are in Category C-21; Legal issues). For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see responses to CTR-001-008b (Category R; UMRA), CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a, and the preamble to the proposed rule.

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Comment ID: CTR-041-016  
Comment Author: Sacramento Reg Cnty Sanit Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: S UMRA  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: b. Unfunded Mandates Reform Act

Under the Unfunded Mandates Reform Act (UMRA, 2 U.S.C. section 1501 et seq.), EPA is required to consider the cost of a proposed regulation to both state and local Governments and the regulated community. EPA is required to prepare a qualitative and quantitative assessment of the anticipated costs and benefits of the Federal mandate and to select the most cost-effective and least burdensome regulatory alternative that achieves the objectives of the rule and is consistent with statutory requirements. EPA has performed an economic analysis, however, EPA contends that the cost of the CTR will not result in expenditures in the aggregate "of \$100 million or more in any one year" necessary to trigger the other requirements of the UMRA.

EPA only makes a limited analysis of alternatives and does not explicitly defend the rule's cost-effectiveness because it contends that UMRA does not apply because the \$100 million cut off was not met.(\*4) Based on the cost research performed by the POTWs and other dischargers, EPA's contention that UMRA's requirements do not apply may be challengeable. Specifically, the EPA Administrator's determination that the cost of implementing the CTR will not result in expenditures in the aggregate "of \$100 million or more in any one year" could be found to be arbitrary and capricious.

EPA should have considered alternatives, such as the adoption of less stringent criteria or different risk levels (e.g., 10E-4 or 10E-5), that could also achieve the objectives of the rule. These alternatives would have met both the UMRA criteria of being more cost-effective and less burdensome while still maintaining consistency with the Clean Water Act.

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(\*4) "EPA has determined that this rule does not contain a federal mandate that may result in expenditures by State, local, and tribal governments, in the aggregate, or by the private sector, of \$100 million or more in any one year. The proposed rule imposes no direct enforceable duties on the State or any local government or on the private sector; rather, this rule proposes ambient water quality criteria which, when combined with State adopted designated uses, will create water quality standards for those water bodies with adopted uses. The State may use these resulting water quality standards in implementing its existing water quality control programs. Today's proposed rule does not directly regulate or affect any entity and, therefore, is not subject to the requirement of sections 202 and 205 of the UMRA." 62 Fed. Reg. 42,191.

Response to: CTR-041-016

See responses to CTR-058-001 (Category C-13; Risk Level) and CTR-036-003a.

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Comment ID: CTR-042-007c  
Comment Author: Cal. Dept. of Transportation  
Document Type: State Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: S UMRA  
References:  
Attachments? Y  
CROSS REFERENCES C-21; E-01c

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Comment: 7. The CTR may violate the Administrative Procedures Act, the and Executive Order (E.O.) Unfunded Mandates Reform Act No. 12866.

In the Preamble to the CTR, EPA repeatedly claims that the CTR will not result in expenditures of more than \$100 million per year and, therefore, the statutory requirements of the UMRA and E.O. 12866 are not triggered.(\*1) Caltrans' annual costs alone and only in Los Angeles will exceed the \$100 million annual figure, even assuming the lowest level of treatment. Therefore, EPA's cost assumptions are challengeable as being arbitrary and capricious and in violation of the Administrative Procedures Act.(\*2)

Request: Caltrans requests that EPA reconsider its cost estimates based on the comments received during the public comment period.

Caltrans would like to thank EPA for the opportunity to provide comments on this proposed regulation. It is hoped that EPA will consider and address Caltrans' comments in the final version of the CTR. Should you have any questions concerning our comments on the CTR, please feel free to address these questions to Marcia Arrant at (916) 657-5381.

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(\*1) See CTR, 62 Fed. Reg. at 42,188, and at 42,191 ("EPA has determined that this rule does not contain a federal mandate that may result in expenditures by State, local and tribal governments, in the aggregate, or by the private sector, of \$100 million or more in any one year.")

(\*2) See American Iron and Steel Institute v. EPA, 1997 WL 297251 (D.C. Cir., 1497)(the court found that EPA had arbitrarily failed to adequately address cost-justification for its elimination of mixing zones. EPA had estimated the total cost of elimination mixing zones for bioaccumulative chemicals of concern (BCCS) from all dischargers to the Great Lakes at \$200,000, without even acknowledging a comment estimating the cost to one town for removal of mercury from its sewage discharge would be approximately \$300,000).

Response to: CTR-042-007c

See responses to CTR-036-003a, CTR-021-005c (Category E-01c; Executive Order 12866), and CTR-042-007a (Category C-21; Legal Issues).

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Comment ID: CTR-043-005d

Comment Author: City of Vacaville

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: S UMRA

References:

Attachments? Y

CROSS REFERENCES C-21; E-01c; R

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Comment: 5. The proposed rule is inconsistent with applicable Federal law and regulations.

In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. The Clean Water Act requires that water quality standards be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes (see CWA section 303(c)(2)(A)). Consistent with this, EPA regulations require that water quality standards be based on identification of "specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern..." For those identified waters, "states must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use"(See 40 CFR 131.1 I (a)(2)). Clearly the intent of both the Act and EPA regulations is that water quality standards be tailored to the characteristics of the waters in question. In failing to properly evaluate the rule's economic impacts and in failing to adequately consider regulatory alternatives, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act. Moreover, in failing to properly consider the impacts on small entities, the rule is inconsistent with the Regulatory Flexibility Act.

Response to: CTR-043-005d

With respect to EPA's decision to publish a single set of criteria in the rule, see responses to CTR-035-012a and CTR-036-005 (both responses are in Category C-21; Legal issues). For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see responses to CTR-001-008b (Category R; RFA), CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a, and the preamble to the proposed rule.

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Comment ID: CTR-044-005g  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: S UMRA  
References:  
Attachments? Y  
CROSS REFERENCES E-01g08; E-01h01; E-01m; E-02c; E-01c02; R

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Comment: We have reviewed the proposed CTR and offer the following comments:

4. EPA's Economic Analysis is seriously flawed. The major flaws include:

(1) failing to do an appropriate sampling of small dischargers having little or no dilution; (2) assuming in the high-end cost scenario that a 25% reduction could be achieved through source control and an additional 25% achieved through treatment plant optimization without capital improvements; (3) constraining estimates of potential costs through key assumptions, including the assumption that regulatory relief from the rule would be granted if costs were in excess of certain thresholds; and (4) exaggerating estimates of potential benefits by assuming an end (i.e., achievement of the proposed water quality criteria) that will not result from the rule. Additional concerns with the economic analysis are presented in Exhibit F. The result of these flaws is that potential costs are greatly understated and potential benefits are greatly overstated. Moreover, the flawed economic analysis has led to the erroneous conclusion that the CTR is not a "significant regulatory action" or major rule subject to Presidential Executive Order 12866 and the Unfunded Mandates Reform Act or a rule that affects small entities protected under the Regulatory Flexibility Act. The City, for example, is a small community having a population of under 50,000 and would be greatly impacted by the proposed rule.

Response to: CTR-044-005g

See responses to CTR-054-013a, CTR-021-005c, CTR-032-004, CTR-021-008, CTR-040-029a, CTR-059-018 (all comments in Category E-01; CTR Cost Comments), and CTR-036-003a.

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Comment ID: CTR-044-006d  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: S UMRA  
References:  
Attachments? Y  
CROSS REFERENCES C-21  
E-01c  
R

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Comment: We have reviewed the proposed CTR and offer the following comments:

5. The proposed rule is inconsistent with applicable Federal law and regulations.

In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. The Clean Water Act requires that water quality standards be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes (see CWA section 303(c)(2)(A)). Consistent with this, EPA regulations require that water quality standards be based on identification of "specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern..." For those identified waters, "states must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use"(See 40 CFR 131.11 (a)(2)) (see Exhibit G). Clearly the intent of both the Act and EPA regulations is that water quality standards be tailored to the characteristics of the waters in question. In failing to properly evaluate the rule's economic impacts and in failing to adequately consider regulatory alternatives, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act (Id.). Moreover, in failing to properly consider the impacts on small entities, such as the City, the rule is inconsistent with the Regulatory Flexibility Act (Id.).

Response to: CTR-044-006d

With respect to EPA's decision to publish a single set of criteria in the rule, see responses to CTR-035-012a and CTR-036-005 (both responses are in Category C-21; Legal issues). For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see responses to CTR-001-008b (Category R; RFA), CTR-036-005c (Category E-01c; Executive Order 12866), CTR-036-003a, and the preamble to the proposed rule.

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Comment ID: CTR-044-009d  
Comment Author: City of Woodland  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: S UMRA  
References:  
Attachments? Y  
CROSS REFERENCES C-28  
E-01c  
R

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Comment: We have reviewed the proposed CTR and offer the following comments:

8. EPA should not adopt criteria for any pollutant where the method detection limit exceeds the objective and there is insufficient detectable, reliable data to determine if the pollutant could reasonably be expected to interfere with designated uses. The proposed rule includes criteria for a number of constituents where there is insufficient data to determine whether the discharge of such pollutants could reasonably be expected to interfere with the designated uses. EPA has chosen to promulgate criteria for these constituents even though section 303 (c)(2)(B) of the Clean Water Act requires States to adopt

numeric criteria only for constituents "... the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses." Clearly, this approach goes beyond the requirements of the Clean Water Act and is therefore unnecessary. Additionally, this approach does not allow EPA to fulfill its duty (under Presidential Order 12866, the Unfunded Mandates Reform Act, and the Regulatory Flexibility Act) to assess the costs, benefits, and impacts of the rule on local government and small entities. While this may be the conservative approach for EPA, it places dischargers throughout the State at risk. As analytical detection limits improve, dischargers may find they are unable to achieve the criteria without costly end-of-pipe controls. But, by then, it will be too late for EPA to evaluate the costs and benefits of the criteria-and-consider alternative criteria. For these reasons, EPA should not adopt criteria for those constituents. If EPA does adopt criteria for those constituents, EPA should evaluate the costs and benefits of toxic criteria, as well as alternative criteria, using worst case assumptions (i.e., assume that discharge levels and ambient levels are at the detection limits).

Response to: CTR-044-009d

See responses to CTR-034-010b and CTR-060-010 (Category C-28; Detection Limits). For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see responses to CTR-001-008b (Category R; RFA), CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a, and the preamble to the proposed rule.

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Comment ID: CTR-044-046

Comment Author: City of Woodland

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: S UMRA

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: b. Unfunded Mandates Reform Act

Under the Unfunded Mandates Reform Act (UMRA, 2 U.S.C. section 1501 et seq.), EPA is required to consider the cost of a proposed regulation to both state and local Governments and the regulated community. EPA is required to prepare a qualitative and quantitative assessment of the anticipated costs and benefits of the Federal mandate and to select the most cost-effective and least burdensome regulatory alternative that achieves the objectives of the rule and is consistent with statutory requirements. EPA has performed an economic analysis, however, EPA contends that the cost of the CTR will not result in expenditures in the aggregate "of \$100 million or more in any one year" necessary to trigger the other requirements of the UMRA.

EPA only makes a limited analysis of alternatives and does not explicitly defend the rule's cost-effectiveness because it contends that does not apply because the \$100 million cut off was not met.(\*3) Based on the cost research performed by the POTWs and other dischargers, EPA's contention that UMRA's requirements do not apply may be challengeable. The regulated community may also be able to demonstrate that the Administrator was arbitrary and capricious by alleging the cost of

implementing the CTR will not result in expenditures in the aggregate "of \$100 million or more in any one year."

EPA should have considered alternatives, such as the adoption of less stringent criteria or different risk levels (e. g., 10E-4 or 10E-5), that could also achieve the objectives of the rule. These alternatives would have met both the UMRA criteria of being more cost-effective and less burdensome while still maintaining consistency with the Clean Water Act.

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(\*3) "EPA has determined that this rule does not contain a federal mandate that may result in expenditures by State, local, and tribal governments, in the aggregate, or by the private sector, of \$100 million or more in any one year. The proposed rule imposes no direct enforceable duties on the State or any local government or on the private sector; rather, this rule proposes ambient water quality criteria which, when combined with State adopted designated uses, will create water quality standards for those water bodies with adopted uses. The State may use these resulting water quality standards in implementing its existing water quality control programs. Today's proposed rule does not directly regulate or affect any entity and, therefore, is not subject to the requirement of sections 202 and 205 of the UMRA." 62 Fed. Reg. 42,191.

Response to: CTR-044-046

See responses to CTR-058-001 (Category C-13; Risk Level) and CTR-036-003a.

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Comment ID: CTR-050-007d  
Comment Author: Sonnenschein Nath & Rosenthal  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org: American Petrol  
Document Date: 09/26/97  
Subject Matter Code: S UMRA  
References:  
Attachments? N  
CROSS REFERENCES C-21  
E-01c  
R

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Comment: IV. EPA Has Not Complied With Applicable Regulatory Review Requirements. There are several significant statutes and executive orders that require EPA to undertake analyses of the costs and benefits of its regulations, and to submit the regulations and analyses to other governmental bodies, including the Office of Management and Budget (OMB) and Congress. Those authorities include the Regulatory Flexibility Act, the Small Business Regulatory Enforcement and Fairness Act (SBREFA), the Unfunded Mandates Reform Act, the Congressional Review Act, and Executive Order 12866 (Regulatory Planning and Review). EPA apparently believes that it does not need to comply with any of those requirements for this rulemaking. (62 Fed. Reg. at 42188-42191). API believes that EPA is required to meet those obligations for the proposed criteria, and that the Agency's rationale for avoiding this responsibility has no legal basis.

EPA supports its decision not to comply with the regulatory review statutes by stating that the proposed criteria "by themselves, do not directly impose economic impacts." (62 Fed. Reg. at 42188). EPA admits that when those criteria are combined with the designated uses that have been adopted by the State, and implemented in permit limits, "there may be a cost to some dischargers." (62 Fed. Reg. at 42188) could be substantial; the Agency itself estimates that the compliance cost could be between \$15 and \$87 million per year.(62 Fed. Reg. at 42189). (That does not include indirect costs to the economy, which would surely put this rule above the \$100 million impact threshold specified in several of the regulatory review statutes listed above.) EPA cannot ignore those costs by creating its own interpretation of those statutes in which only "direct" impacts need be considered. There is no support in the statutory language or legislative history for such a reading, and EPA has cited no such support in its Federal Register notice.

There is another problem with EPA's rationale for avoiding regulatory review: if EPA were right that "indirect" impacts do not trigger those reviews, the impacts of this rulemaking are not really "indirect." Those impacts emerge clearly once the proposed criteria are combined with the State's designated uses. Those designations have already been established, so there is nothing uncertain or indefinite about that aspect of the water quality standards. Then, once the standards are completed, the State must implement those standards through permit limits. While there are some decisions that the State must make in determining the proper permit limits, which can influence the size of the compliance costs, EPA can readily determine a range of possible costs. In fact, the Agency has already done so, resulting in the \$15 - \$87 million cost range discussed above. While those costs may not be fixed with certainty, they are certainly "direct economic impacts". Therefore, even if the Agency were correct in looking at only "direct" impacts, this rulemaking poses such impacts, and EPA must comply with the statutory requirements to conduct and submit cost and benefit analyses of its proposed criteria.

## V. CONCLUSION

As explained above, EPA's proposal to issue water quality criteria for toxicities in the State of California suffers from serious legal flaws. API urges the Agency to reconsider its intended course of action in light of the issues raised in these and other public comments. If you have any questions regarding these comments, or would like any additional information, please call Theresa Pugh at 202/682-8036.

Response to: CTR-050-007d

See responses to CTR-001-008b (Category R; RFA), CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a, and the preamble to the proposed rule.

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Comment ID: CTR-052-021d

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: S UMRA

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES C-21

E-01c

R

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Comment: C. RECOMMENDATIONS FOR MODIFICATIONS TO THE CTR AND EA

EPA should revise the proposed rule and economics analysis such that they are consistent with applicable Federal law and regulations. In proposing a single set of criteria for all estuaries, the rule is inconsistent with the Clean Water Act and EPA's water quality standards regulations. In failing to properly evaluate the rule's economic impacts and in failing to adequately consider alternative criteria for San Francisco Bay Area waters, the rule is inconsistent with Presidential Executive Order 12866 and the Unfunded Mandates Reform Act. In failing to properly consider the impacts on small entities, the rule is inconsistent with the Regulatory Flexibility Act. Specific citations for these inconsistencies are contained in comments from BADA and CASA/Tri-TAC.

Response to: CTR-052-021d

With respect to EPA's decision to publish a single set of criteria in the rule, see responses to CTR-035-012a and CTR-036-005 (both responses are in Category C-21; Legal issues). For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see response to CTR-001-008b (Category R; RFA), CTR-036-005c (Category E-01c; Executive Order 12866), CTR-036-003a, and the preamble to the proposed rule.

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Comment ID: CTR-054-008e

Comment Author: Bay Area Dischargers Assoc.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: S UMRA

References:

Attachments? Y

CROSS REFERENCES C-02b

C-24

E-01c

R

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Comment: Separate, scientifically defensible, reasonably achievable aquatic life criteria for copper should be adopted for San Francisco Bay, or alternatively EPA should specify in the Preamble implementation policies for copper that will result in reasonable control measures actions. To comply with the Clean Water Act and EPA regulations, EPA is required to consider specific water bodies. To fulfill the spirit of Presidential Executive Order 12866 and the requirements of the Unfunded Mandates Reform Act, EPA is required to evaluate regulatory alternatives based on an analysis of costs and benefits. Based on BADA's analysis of costs and benefits, EPA should either adopt copper criteria that are reasonably achievable or alternatively specify implementation policies that will avoid costly end-of-pipe controls. Potential implementation measures that could be specified include use of the following in calculating effluent limitations: actual dilution based on modeling studies; copper translators; probability of compliance less than 99.9%; and water-effect ratios determined for different segments of the Bay. Unless EPA specifies these or similar implementation policies in the rule, it is possible that the CTR could result in significant costs (\$12 million per year to \$78 million per year) while resulting in minor environmental benefit (a 1% reduction in copper loading to the Bay). In that

case, the CTR would violate the Clean Water Act, EPA regulations, Presidential Executive Order 12866, the Unfunded Mandates Reform Act and the Regulatory Flexibility Act. (see the discussion under Item 11 below.)

Response to: CTR-054-008e

See responses to CTR-054-008a (Category C-02b; Copper Aquatic Life), CTR-035-012a and CTR-036-005 (Category C-24; Legal Issues), CTR-021-005c (Category E-01c; Executive Order 12866), CTR-054-013a (Category E-01g3; Cost-Effectiveness Ratio), CTR-001-008b, CTR-036-003a, and the preamble to the proposed rule.

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Comment ID: CTR-054-050

Comment Author: Bay Area Dischargers Associati

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: S UMRA

References: Letter CTR-040 incorporates by reference letter CTR-027

Attachments? Y

CROSS REFERENCES

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Comment: b. Unfunded Mandates Reform Act

Under the Unfunded Mandates Reform Act (UMRA, 2 U.S.C. section 1501 et seq.), EPA is required to consider the cost of a proposed regulation to both state and local Governments and the regulated community. EPA is required to prepare a qualitative and quantitative assessment of the anticipated costs and benefits of the Federal mandate and to select the most cost-effective and least burdensome regulatory alternative that achieves the objectives of the rule and is consistent with statutory requirements. EPA has performed an economic analysis, however, EPA contends that the cost of the CTR will not result in expenditures in the aggregate "of \$100 million or more in any one year" necessary to trigger the other requirements of the UMRA.

EPA only makes a limited analysis of alternatives and does not explicitly defend the rule's cost-effectiveness because it contends that does not apply because the \$100 million cut off was not met.(\*3) Based on the cost research performed by the POTWs and other dischargers, EPA's contention that UMRA's requirements do not apply may be challengeable. The regulated community may also be able to demonstrate that the Administrator was arbitrary and capricious by alleging the cost of implementing the CTR will not result in expenditures in the aggregate "of \$100 million or more in any one year."

EPA should have considered alternatives, such as the adoption of less stringent criteria or different risk levels (e. g., 10E-4 or 10E-5), that could also achieve the objectives of the rule. These alternatives would have met both the UMRA criteria of being more cost-effective and less burdensome while still maintaining consistency with the Clean Water Act.

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(\*3) "EPA has determined that this rule does not contain a federal mandate that may result in

expenditures by State, local, and tribal governments, in the aggregate, or by the private sector, of \$100 million or more in any one year. The proposed rule imposes no direct enforceable duties on the State or any local government or on the private sector; rather, this rule proposes ambient water quality criteria which, when combined with State adopted designated uses, will create water quality standards for those water bodies with adopted uses. The State may use these resulting water quality standards in implementing its existing water quality control programs. Today's proposed rule does not directly regulate or affect any entity and, therefore, is not subject to the requirement of sections 202 and 205 of the UMRA." 62 Fed. Reg. 42,191.

Response to: CTR-054-050

See responses to CTR-058-001 (Category C-13; Risk Level) and CTR-036-003a.

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Comment ID: CTR-056-022b

Comment Author: East Bay Municipal Util. Dist.

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/22/97

Subject Matter Code: S UMRA

References: Letter CTR-056 incorporates by reference letter CTR-054

Attachments? N

CROSS REFERENCES E-01E

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Comment: EBMUD perceives there to be a significant overall economic impact resulting from CTR, contrary to the conclusions reached by EPA. Because the cost may exceed \$100 million annually on the regulated community (the majority of which are publicly owned agencies), it appears that pursuant to Executive Order 12,866 and the Unfunded Mandates Reform Act, the CTR can be considered a significant regulatory action which is likely to adversely affect the economy of many regions of the State, the environment and/or local governments. EBMUD is also of the opinion that EPA failed to make a, "...reasoned determination that the benefits of the intended regulation justify its costs," and is obligated to redo the draft Economic Analysis and submit it for review by the Office of Management and Budget.

Response to: CTR-056-022b

See responses to CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a, and the preamble to the proposed rule.

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Comment ID: CTR-059-002c

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: S UMRA

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y  
CROSS REFERENCES E-01c  
R

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Comment: The Sanitation Districts disagree with EPA's assertions that the CTR is not a significant regulatory action under Executive Order 12866 or the Unfunded Mandates Reform Act, and that EPA is not required to comply with the Regulatory Flexibility Act because the CTR establishes no requirements applicable to small entities. We believe the potential costs for POTWs to comply with the CTR criteria would far exceed the \$ 100 million threshold, based on the fact that we estimate that the potential costs for seven Sanitation Districts' facilities to comply with the CTR to be nearly \$150 million per year. Clearly, many of the 304 other POTWs in the State will also incur costs, as, will other NPDES permittees, indirect dischargers, stormwater dischargers, and nonpoint sources. Thus, EPA's cost figure of \$15 - \$87 million per year is simply not a credible estimate. Also, it is quite clear that the CTR is likely to adversely affect local governments, including over 40 small communities located in our service area, and that it is significantly different from other federal regulations previously promulgated in California. We believe that EPA has not complied with the mandates of Executive Order 12866, the Unfunded Mandates Reform Act and the Regulatory Flexibility Act. Accordingly, EPA must revise the economic analysis and it must be reviewed by the Office of Management and Budget and then EPA must select the most cost-effective and least burdensome regulatory alternative.

Response to: CTR-059-002c

See responses to CTR-001-008b (Category R; RFA), CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a, and the preamble to the proposed rule.

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Comment ID: CTR-059-006c  
Comment Author: Los Angeles County Sanit. Dist  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: S UMRA  
References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y  
CROSS REFERENCES C-28  
E-01c

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Comment: Due to the time constraints of the comment period, we have focused our review and comments primarily on those criteria that we anticipate may cause compliance issues for one or more of the Sanitation Districts' WRPs (see below). Based on our initial review of the proposed rule, the Sanitation Districts recommend that adoption of some of the criteria be deferred. As explained in the attached comments, we believe that there are significant scientific issues regarding the human health criteria for several trihalomethanes that call into question the accuracy and appropriateness of the proposed criteria. In addition, we reconunend that EPA defer adoption of those criteria that are below detection limits and that have not been demonstrated to be adversely affecting water quality or the attainment of designated uses on a water body-specific basis in California. In addition, we recommend that EPA not adopt criteria for effluent dependent waters, unless they have been adjusted to reflect the characteristics of this type of

water body.

#### Criteria Below Detection Limits

We believe that there are fundamental problems with EPA's decision to adopt criteria that are below detection limits. This issue relates to EPA's statutory and regulatory obligations in establishing water quality criteria; namely, that EPA is subject to the same policies, procedures, analyses, and public participation requirements as States pursuant to 40 CFR section 131. These regulations require States to "review water quality data and information on discharges to specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use." (40 CFR section 131.11) For criteria where the method detection limit exceeds the objective, there are inadequate data to determine if the pollutant could reasonably be expected to interfere with attainment of designated uses. We believe that because of the inability to detect these substances and the lack of monitoring information indicating water quality use impairment EPA has not been able to fulfill its obligations to conduct a water body-specific analysis of the need to promulgate criteria.(\*1)

(\*1)U.S. Environmental Protection Agency, Economic Analysis of the Proposed California Water Quality Toxics Rule, Office of Water (EPA-820-B-96-001, July 1997), p. 8-18.

Second, EPA has not fulfilled its obligations under the Unfunded Mandates Reform Act and Executive Order 12866 to analyze the costs and benefits of promulgating proposed criteria which cannot be detected or for which insufficient monitoring data are available.

Given these deficiencies, we recommend that EPA defer the adoption of criteria for constituents which are below detection limits until such time as EPA has demonstrated that the levels of toxic pollutants being discharged are at a level to warrant concern. As an alternative, EPA could defer to the State for promulgation of criteria for such compounds on a water body-specific basis as part of the State's continuous water quality planning process.

Response to: CTR-059-006c

See responses to CTR-034-010b and CTR-060-010 (Category C-28; Detection Limits). For a discussion of how the rule complies with the E.O. 12866, the Unfunded Mandates Reform Act, and Regulatory Flexibility Act, see responses to CTR-001-008b (Category R; RFA), CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a, and the preamble to the proposed rule.

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Comment ID: CTR-059-015b

Comment Author: Los Angeles County Sanit. Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: S UMRA

References: Letter CTR-059 incorporates by reference letter CTR-035

Attachments? Y

## CROSS REFERENCES E-01c

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Comment: Executive, Order 12866 and Unfunded Mandates Reform Act

The Sanitation Districts disagree with EPA's assertion that the CTR is not a significant regulatory action under Executive Order 12866 or the Unfunded Mandates Reform Act. We believe that the potential costs for POTWs to comply with the CTR criteria could far exceed the \$ 100 million threshold, based on the fact that we estimate that the potential costs of seven Sanitation Districts' facilities to comply with the CTR could be nearly \$150 million per year. Clearly, many of the 304 other POTWs in the State will also incur costs, as will other NPDES permittees, indirect dischargers, stormwater dischargers, and nonpoint sources. Thus, EPA's cost figure of \$15 - \$87 million per year is simply not a credible estimate. Also, it is quite clear that the CTR is likely to adversely affect local governments, and that it is significantly different from other federal regulations previously promulgated in California. Therefore, we believe that EPA has not complied with the mandates of E.O. 12866 and the Unfunded Mandates Reform Act, and that the economic analysis must be revised, and EPA must select the most cost-effective and least burdensome regulatory alternative. In addition, the Office of Management and Budget should review the economic analysis and the rule before it is promulgated, as required by Section 6 of E.O. 12866.

Response to: CTR-059-015b

See responses to CTR-001-008b (Category R; RFA), CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a, and the preamble to the proposed rule.

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Comment ID: CTR-084-002b  
Comment Author: City of Redding  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: S UMRA  
References:  
Attachments? N  
CROSS REFERENCES E-01c01

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Comment: ISSUES OF CONCERN

The Unfunded Mandates Act of 1995, 62 FR 42191. The City of Redding disagrees with the conclusion that the proposed rule does not result in expenditures by state or local governments in aggregate of \$100 million or more in any one year. The strict water quality criteria in the proposed rule would directly cause the state to adopt more stringent standards for dischargers, which would then require the local dischargers to implement exorbitant and costly measures against our users.

Regarding unfunded mandates, the City of Redding believes that the state and local governments would have no alternative in implementing this federal rule than to enforce exorbitant and costly measures against our users. Therefore, the proposed rule would directly cause significant burden and costs to state and local governments.

Response to: CTR-084-002b

See responses to CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a, and the preamble to the proposed rule.

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Comment ID: CTR-090-012b

Comment Author: C&C of SF, Public Util. Commis.

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: S UMRA

References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

CROSS REFERENCES E-01c

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Comment: The PUC is aware that the Clean Water Act does not require and in fact does not allow for economic considerations in meeting water quality requirements. However, other policies and regulatory mandates (Executive Order 12866 and the Unfunded Mandates Reform Act) require that we disclose to the public the cost of meeting water quality requirements. There is no doubt that there will be costs that California must bear to produce water quality. We must assure the public that the costs will produce benefits. We are not confident that this proposed rule can do that.

Response to: CTR-090-012b

See responses to CTR-021-005c (Category E-01c; Executive Order 12866), CTR-036-003a, and the preamble to the proposed rule.

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Comment ID: CTR-092-016c

Comment Author: City of San Jose, California

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: S UMRA

References: Letter CTR-092 incorporates by reference letter CTR-035

Attachments? Y

CROSS REFERENCES E-01c

R

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Comment: Introductory Comment

EPA states in the Executive Summary (page ES-2) to the Economic Analysis that:

"EPA did not calculate costs for any program for which it does not have enforceable authority ... (nor) for NPDES sources which are not typically subject to numeric WQBELs....."

From a national policy perspective, this narrowing, of the focus of the Economic Analysis may be a

justifiable approach to cost benefit analysis. Local government, however, is not able to disregard the potential cost effects of the CTR on urban and agricultural runoff. Those potential costs will have to be defrayed with proceeds from the same pool of local rate payers responsible for paying for point source pollutant removal programs. In California, those ratepayers have made clear both their support for environmental protection and their reluctance to pay more than is necessary for that protection. A narrow definition of those costs included in the CTR Economic Analysis continues the pattern of fragmenting responsibility and authority for the protection of waterways, which in turn hinders creation and implementation of holistic strategies which would best serve the environment at least cost.

#### Questions for EPA on the Introductory Comment

Q.-1) If not EPA, who has the responsibility to define the aggregated costs of all water quality-related regulations?

Q.-2) San Jose's reading of federal policy initiatives (which include, but are not limited to, the Regulatory Flexibility Act, Executive Order 12866, and the Unfunded Mandates Reform Act) indicates that EPA is empowered to analyze the economic impact of federal regulations in a way that addresses both aggregated cost impacts as well as the fiscal reality of local level government. Why was this not accounted for in the current analysis?

Response to: CTR-092-016c

See responses to CTR-001-008b (Category R; RFA), CTR-021-005c (Category E-01c; Executive Order 12866), CTR-021-006b (Category E-01c; Executive Order 12866), CTR-036-003a, and the preamble to the proposed rule.

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Subject Matter Code: T State Implementation Policy

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Comment ID: CTR-004-001

Comment Author: South Bayside System Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: T State Implementation Policy

References:

Attachments? N

**CROSS REFERENCES**

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Comment: SBSA is the regional wastewater treatment agency serving over 200,000 residents and businesses in southern San Mateo County. SBSA has a permitted capacity of 29 MGD average dry weather flow utilizing advanced treatment processes including filtration, discharging to the San Francisco Bay. While there are many concerns about various features of this regulation the main issue to SBSA is the inability to determine what the actual impacts will be due to uncertainties of how the California Toxics Rule (CTR) will be implemented by the state. Assumptions that the impacts will be small because of regulatory flexibility cannot be made (see Attachment A).

Response to: CTR-004-001

EPA believes that it is possible for a discharger to pursue regulatory relief which would result in a less stringent WQBEL through a TMDL, variance, site-specific criteria, or alternative mixing zone and that it properly included the possibility of these mechanisms in calculating the low-end cost in the Economic Analysis.

With respect to the comments on TMDLs, EPA's proposed rule does not alter the statutory and regulatory language requiring the states to perform TMDLs which are then submitted for EPA approval. The preamble merely acknowledges the reality that past and ongoing TMDL processes are often a collaborative effort by dischargers, the State, EPA, and other stakeholders and that EPA expects that this collaborative approach will be utilized in the future. With respect to the comments on pounds per day, pollutant trading, and interim limits, EPA believes the preamble discussion was appropriate in articulating current EPA policy but should not be put into regulatory language since these issues are related to permit implementation which is the primary responsibility of the State.

EPA disagrees with the comments on variances and site-specific criteria. EPA believes that even though these mechanisms are not specifically authorized as part of the CTR, the rule does not preclude these mechanisms from being pursued and approved by the State and EPA in the future consistent with current regulations. Therefore, for the purposes of crafting a reasonable cost analysis, the economic analysis incorporates the possibility of dischargers obtaining variances and site-specific criteria.

With respect to mixing zones, the preamble merely reiterates EPA's current policy on the proper application of mixing zones and does not restrict mixing zones any more than they were restricted in the past. EPA will review the State's new mixing zone policy for consistency with the Clean Water Act. A federal rulemaking would not have to accompany EPA approval of specific mixing zones in permits since, unlike a variance or site-specific criteria, a change in the mixing zone does not require a change in the underlying water quality standards of a specific waterbody. See also CTR-004-009 (Category G-05;

Mixing Zones and Dilution Credits).

Given the possibility that dischargers may be able to obtain permits with less stringent WQBELs based on the mechanisms discussed above, EPA calculated a low-end cost of the rule that included the costs of a discharger pursuing regulatory relief if the costs exceed a trigger of \$200 per toxic-pounds equivalent removed.

EPA acknowledges that regulatory relief which would result in a less stringent WQBEL through a TMDL, variance, site-specific criteria, or alternative mixing zone may not always be available or appropriate. Therefore, in the final Economic Analysis, EPA calculated a high-end cost of the rule that did not contain any assumption of regulatory relief if the costs per toxic-pounds equivalent exceeded a specific "cost-trigger."

Given the uncertainty inherent in predicting how regulatory relief will be granted given that it will be decided by regulatory authorities on a case-by-case basis, EPA believes that its approach in the final Economic Analysis is a reasonable way of expressing the possible range of regulatory outcomes and the costs (and benefits) resulting from those outcomes.

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Comment ID: CTR-007-006

Comment Author: Port of San Diego

Document Type: Port Authority

State of Origin: CA

Represented Org:

Document Date: 09/24/97

Subject Matter Code: T State Implementation Policy

References:

Attachments? N

CROSS REFERENCES

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Comment: 5. The District is concerned with the apparent complexity of calculating the various water quality criteria limits. In order to reduce the number of errors likely to occur as a result of the calculations, the District recommends that detailed step-by-step forms be created outlining the precise calculation methods for the various priority toxic pollutants.

Thank you for this opportunity to comment on the proposed rule. Sincerely,

STUART A. FARNSWORTH Senior Environmental Planner

Response to: CTR-007-006

EPA agrees that the calculations for various water quality criteria may be complex. To assist regulatory authorities in calculating various water quality criteria, EPA has included in the "General Notes" to the proposed CTR (see 62 CFR 42160 at pp. 42205-42208) and final CTR, a section containing formulas, tables, and additional information necessary for calculating various water quality criteria proposed in the CTR.

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Comment ID: CTR-009-001

Comment Author: City of Thousand Oaks  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/22/97  
Subject Matter Code: T State Implementation Policy  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: Dear Ms, Frankel:

The City of Thousand Oaks has reviewed the 40 CFR Part 131 Water Quality Standards; Establishment of numeric Criteria for Priority Toxic Pollutants for the State of California; Proposed Rule as published in the Federal Register, Vol. 62, No. 150, Tuesday, August 5, 1997, and offers the following comments:

The City applauds the EPA's encouragement and endorsement of maximum flexibility applied by the State to implement these priority pollutant criteria. To that end, the City agrees with EPA that the State of California should develop and promulgate its own comprehensive water quality standards and implementation procedures, in accordance with Section 303 of the federal Clean Water Act as expeditiously as possible. The City understands the agency's lack of resources to complete the entire rulemaking task for the State, but also suggests that the EPA appreciate the lack of resources the regulated community has to comply with partial and inflexible requirements. The same "Public" is the ultimate provider of these resources. It is therefore incumbent on all layers of government to assure the value received is at least commensurate with the cost.

Response to: CTR-009-001

As recognized by the commenter, EPA has chosen to defer to the State with respect to implementation procedures. To facilitate coordination between EPA and the State on issues pertaining to implementation of CTR criteria and regulatory flexibility outlined in the CTR preamble, EPA has provided lengthy formal comment on the State's draft Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California and Functional Equivalency Document (FED), and draft supplement and draft addendum to the supplement for the FED. EPA will continue to work closely with the State on CTR implementation issues and concerns. Pursuant to Executive Order 12866, EPA did prepare an economic analysis which provides an estimate of potential costs and benefits due to the implementation of the CTR.

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Comment ID: CTR-015-003  
Comment Author: Eastern Municipal Water Dist.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/23/97  
Subject Matter Code: T State Implementation Policy  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: Implementation Issues

It is made clear that the State Board will have the responsibility for determining implementation of the water quality criteria in the Rule and not the Agency. However, there are several implementation issues discussed in the Preamble. The relationship of the Agency to the State Board and to the Regional Water Quality Control Boards ("Regional Boards") is unclear and requires more specific explanation. Further, the Agency does not acknowledge some of the State Board's existing authority and policies, but frequently recognizes Regional Board Basin Plans.

The District supports the inclusion of any provisions that allow for state flexibility in implementation of the Rule. The Agency needs to re-examine its discussions, however, as some of them do not seem consistent with the Agency's own guidance. Finally, it is critical that the Agency work closely with the State Board on these issues. From a preliminary review of the State Board's Draft Policy for Implementation of Toxics Standards, which was just released, it is apparent that there has been no coordination on these issues. There are several inconsistencies and contradictions which should be resolved before the Rule is promulgated.

Response to: CTR-015-003

State Water Resources Control Board and Regional Water Quality Control Board authorities and policies are generally outlined and/or incorporated by reference into Basin Plans adopted by the Regional Water Quality Control Boards. To facilitate coordination between EPA and the State on issues pertaining to implementation of CTR criteria and regulatory flexibility outlined in the CTR preamble, EPA has provided lengthy formal comment on the State's draft Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California and Functional Equivalency Document (FED), and draft supplement and draft addendum to the supplement for the FED. EPA will continue to work closely with the State on CTR implementation issues and concerns.

See also CTR-015-004 (Category G-05; Mixing Zones and Dilution Credits), CTR-004-007 (Category G-07; Variances), and CTR-015-006 (Category G-02; Compliance Schedules).

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Comment ID: CTR-027-005b

Comment Author: California SWQTF

Document Type: Storm Water Auth.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: T State Implementation Policy

References: Letter CTR-027 incorporates by reference letters CTR-001, CTR-036 and CTR-040

Attachments? N

CROSS REFERENCES G-03

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Comment: 5. The proposed rule restricts the State's regulatory flexibility in permitting by establishing averaging periods and low flow conditions, and directives regarding establishing effluent limits for criteria not being adopted as part of the CTR. USEPA has preempted the State's flexibility by establishing averaging periods for applying acute and chronic aquatic life and human health criteria, and by establishing low flow conditions that must be used in developing limits based on proposed criteria.

These are implementation issues that should remain with the State regulatory authority.

Recommendation: The rule should be revised to delete all provisions that preempt the State's regulatory flexibility.

Response to: CTR-027-005b

EPA has adopted recommendations for averaging periods and low flow values because they are intrinsic to ensuring that the numeric values are protective of the designated use. These factors are part of the ambient condition necessary to protect the designated use, see preamble to the proposed CTR and Technical Support Document for Water Quality Based Toxics Control, U.S. EPA 1991, Section 2.3, and Appendix D. As acknowledged in the preamble, the State may develop and adopt criteria averaging periods and critical low flows that differ from EPA's recommendations, as long as they are scientifically supportable, but when EPA promulgates rules, it is using these averaging periods and flow recommendations as representing the best scientific judgement given all the uncertainties in deriving these factors.

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Comment ID: CTR-032-003

Comment Author: Las Gallinas Val. Sanitary Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: T State Implementation Policy

References: Letter CTR-032 incorporates by reference letter CTR-035

Attachments? N

**CROSS REFERENCES**

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Comment: It is important that the significant efforts and accomplishments of the Task Forces not be ignored in this CTR promulgation process. The District suggests that EPA consider providing more specific guidance to the State on the need for and use of regulatory flexibility beyond its statement that "EPA supports the State's consideration of stakeholder Task Force recommendations to help in dealing with these controversial and complex issues." (CTR p.42185)

Response to: CTR-032-003

See response to CTR-009-001.

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Comment ID: CTR-032-005b

Comment Author: Las Gallinas Val. Sanitary Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: T State Implementation Policy

References: Letter CTR-032 incorporates by reference letter CTR-035

Attachments? N

## CROSS REFERENCES V

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Comment: The CTR criteria need to be specifically and directly linked in the regulations to the State's Implementation Policy. Furthermore, the CTR and the Implementation Policy need to be moved to more parallel tracks and reviewed and adopted at the same time, not in series. EPA needs to provide more specific direction to the State on how and under what conditions regulatory relief options will be pursued jointly by the State and/or Regional Boards and impacted dischargers. The concept of numeric triggers should be refined, or an equivalent threshold identified, above which specific regulatory relief options would be pursued and requirements for major treatment plant improvements held in abeyance. Without these types of commitments and the linkage of the two regulatory actions, there is no sound basis for the CTR cost estimates.

Response to: CTR-032-005b

See response to CTR-009-001 and CTR-004-001.

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Comment ID: CTR-038-008e

Comment Author: Sonoma County Water Agency

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: T State Implementation Policy

References:

Attachments? Y

CROSS REFERENCES C-24

E-01c

R

S

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Comment: 7. Separate, sites-specific aquatic life criteria for copper and human health criteria for mercury should be adopted for Schell Slough, or alternatively EPA should specify implementation procedures for these criteria that will preclude unreasonable controls such as end-of-pipe treatment. To comply with the Clean Water Act and EPA regulations, EPA should consider specific water bodies. To fulfill the spirit of Presidential Executive Order 12866 and the requirements of the Unfunded Mandates Reform Act and the Regulatory Flexibility Act, EPA should evaluate regulatory alternatives based on an analysis of costs and benefits. Based on the assessment of costs and benefits described in "3" above, EPA should either adopt the criteria that is currently achieved, or alternatively specify implementation procedures that would allow the current discharge to continue (e.g., allowable Mixing zones and averaging periods and, for copper, a translator and water-effect ratio). Again, the District is amenable to continuing to address these constituents through pollution prevention measures and to assessing the actual impacts of these constituents in Schell Slough. Without EPA specifying such implementation procedures in the CTR, it is possible that the CTR could impose significant costs on the District (and the other small communities its serves) without providing a commensurate environmental benefit. In that case, the CTR would be inconsistent with the Clean Water Act, EPA regulations, Presidential Executive Order 12866, the Unfunded Mandates Reform Act and the Regulatory Flexibility Act.

Response to: CTR-038-008e

See response to CTR-038-008a (Category C-24; Site-Specific Criteria).

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Comment ID: CTR-052-015

Comment Author: East Bay Dischargers Authority

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: T State Implementation Policy

References: Letter CTR-052 incorporates by reference letters CTR-035 and CTR-054

Attachments? Y

**CROSS REFERENCES**

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Comment: C. RECOMMENDATIONS FOR MODIFICATIONS TO THE CTR AND EA

Revise the CTR to address attainability and cost issues. The CTR should be revised such that EPA acknowledges the cost and benefit issues and provides specific regulatory relief where cost-effective compliance cannot be achieved.

Response to: CTR-052-015

See response to CTR-042-007a (Category C-21; Legal Concerns).

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Comment ID: CTR-053-005

Comment Author: Heal the Bay

Document Type: Environmental Group

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: T State Implementation Policy

References: Letter CTR-053 incorporates by reference letter 6 and the comments on Dioxin, copper, and the compliance schedule from letter CTR-002

Attachments? N

**CROSS REFERENCES**

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Comment: Finally, Heal the Bay will review the implementation policy issued by the State to ensure that the policy includes a process to identify: (1) those criteria pollutants that, based on the recommendations of the task force and recent scientific data, should be more stringent than the proposed California Toxics Rule; (2) the process to perform the required CEQA analysis of those criteria; and (3) the time-lines for adopting the more stringent criteria.

Response to: CTR-053-005

No response required by comment.

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Comment ID: CTR-055-002b  
Comment Author: USS-POSCO Industries  
Document Type: Specific Industry  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: T State Implementation Policy  
References:  
Attachments? Y  
CROSS REFERENCES C-21

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Comment: Waste Load Allocation (WLA) is a flawed concept and UPI requests the EPA promulgate conditions for exemption as part of the requirement for compliance with such allocations.

The implementation of CWA Section 303(c)(2)(B) as discussed beginning on page 42184 causes numerous obstacles, both financial and technological, to facilities such as UPI. Our facility will be subject to water quality-based effluent limitations (WQBELs). Therefore, total maximum daily loads (TMDL) and WLAs will be utilized as future discharge permit criteria.

State Task Force recommendations also recognize that the TMDL process can be significantly labor and data intensive. UPI concurs that the TMDL process is significantly labor and data intensive. During the five year period from 1989 through 1993 UPI spent close to a million dollars (\$1,000,000) on the studies of point source wasteload performance at its facility. The study was initiated to verify the efficacy of our waste water treatment system in removing chemical process constituents that were added to the water from the river (Delta) during use of the water as process water. Chain-of-custody and laboratory results for this study were documented in our required monthly self monitoring reports to the RWQCB.

The above study of efficacy of wastewater treatment prior to discharge is summarized in the following attached tables which show averages for three month periods over five full years.

Table 9. Summary of Discharge 001 Gross Mass Loading, lb/day Table 10. Summary of Discharge 001 Net Mass Loading, lb/day Table 11. Summary of Discharge 001 Net Concentrations, ug/l

Each table is shown in two sections. Section A shows the tabulation of results for cadmium (Cd), total chromium (Cr, total), hexavalent chromium (CrE+6), copper (Cu), total iron (Fe, total), dissolved iron (Fe, dissolved), lead (Pb), nickel (Ni) and zinc (Zn). Section B shows the tabulation of results for arsenic (As), mercury (Hg), selenium (Se), silver (Ag), tin (Sn), cyanide, phenolics, polyaromatic hydrocarbons (PAHs), naphthalene, and tetrachloroethylene. All analyses were done using approved standard procedures to determine the total concentration of each chemical. All results that were reported at minimum detection level (MDL) are included in the averages at one half of the reported MDL.

The attached tables illustrate the following: The gross lb/day discharge loadings (Table 9) show certain trends of improvement, eg, CrE+6, for which the process sources had been controlled. Note that since completion of the study compliance samples for CrE+6 during the most recent two year period have been reported at less than MDL. Other decreases, such as shown for Cd, Hg and Pb, are the result of improved analytical test procedures.

The net discharge lb/day loadings (Table 10) and net discharge ug/l concentrations (Table 11) show

many results that are at or below zero discharge for many constituents. Other net discharge ug/l concentrations are significantly below the applicable MDLs, which also indicates that the net concentration is essentially zero. This indicates that chemical control for most chemicals is essentially 100% complete and that no process constituents are contained in the permitted discharge, except as noted below.

Exceptions to the above are Cr, Sn, and phenolics for which the net results are significantly above zero.

The above study shows the substantial effort and expenditure that was required to verify performance with respect to chemicals of concern (COCs) for a specific source category (and for several additional chemicals that were added to the COC list). The list of COCs is being expanded to 126 in the proposed regulations, more than six times as large a list as was evaluated in our performance study.

While the use of the Waste Load Allocation (WLA) principle may sound good, it is only good if properly administered. Two criterion should be considered to make the use of WLAs practicable and administratively feasible for both the agencies and the dischargers.:

\* The COCs applicable to WLA discharge compliance should be identified by the Administrator for each source category, per Title 33, Section 1316(b)(1).

\* Each NPDES Permit Applicant shall analyze and report on chemical listed on the standard permit application every five years to verify which if any discharge chemicals are subject to WLA discharge compliances.

For the above reasons, UPI requests the EPA add the following to the end of Section 131.38(e)(1) of part 131 of Title 40:

"New and existing point source dischargers shall be considered to be in compliance with such WQBELs except for (i) any WQBEL constituent that is identified for the source category pursuant to Section 1316(b)(1) of Title 33, or (ii) any WQBEL constituent which may cause an increase in the receiving water due to such discharge as determined from information contained in the standard required permit application."

Response to: CTR-055-002b

The comment regarding wasteload allocations is outside the scope of this rule. The CTR sets criteria for pollutant levels in ambient water but does not address how wasteload reductions are to be allocated to sources of pollutants. Wasteload allocations are already addressed under current regulations and guidance. When developing effluent limitations for a NPDES permit, the permitting authority must consider effluent limitations based on both the technology available to treat the pollutants and limitations that are protective of the designated uses of the receiving water. The intent of technology based effluent limitations is to require a minimum level of treatment for industrial/municipal point sources based on currently available treatment technologies. For industrial sources, national effluent limitations guidelines are developed based on the demonstrated performance of a reasonable level of treatment that is within the economic means of specific categories of industrial facilities. However, effluent limitations guidelines are not always established for every pollutant present in an industrial discharge and, in many instances, the guidelines are established only for those pollutants which are necessary to ensure that industrial facilities will comply with the technology-based requirements of the CWA (i.e., BPT, BCT, BAT, NSPS).

NPDES permitting regulations at 40 CFR 122.44(d) require that if, after technology based effluent limitations are applied, the permitting authority projects that any point source discharger may exceed an applicable water quality criterion, then a water quality based effluent limitation for that pollutant must be imposed. In addition, Section 301(b)(1)(c) of the Clean Water Act requires that effluent limitations be established as necessary to meet water quality standards. Neither EPA nor the states are required to set water quality based effluent limits at any higher level because of technological difficulties in measuring compliance. See *NRDC v. EPA*, 859 F. 2d 156, 208 (D.C. Cir. 1988). Water quality based effluent limitations are usually calculated from WLAs based on TMDLs, or on WLAs estimated for a single point source using simplified water quality models. These regulations also require that all effluents be characterized by the permitting authority to determine the need for water quality based effluent limitations. (The Technical Support Document for Water Quality-based Toxics Control (1991) provides additional guidance on collecting monitoring data for establishing water quality based effluent limits.) In accordance with these regulations, when determining whether a water quality based effluent limitation is needed in a permit, the permitting authority is required to consider, at minimum: (1) existing controls on point and nonpoint sources of pollution; (2) the variability of the pollutant or pollutant parameter in the effluent; (3) the sensitivity of the species to toxicity testing; and (4) where appropriate, the dilution of the effluent in the receiving water. The permitting authority must also consider whether technology based limits are sufficient to maintain State water quality standards.

Given the requirements outlined above, EPA believes that the requested changes to the end of 40 CFR 131.38(e)(1) are not appropriate within the scope of today's rule.

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Comment ID: CTR-057-009

Comment Author: City of Los Angeles

Document Type: Local Government

State of Origin: CA

Represented Org:

Document Date: 09/26/97

Subject Matter Code: T State Implementation Policy

References:

Attachments? N

**CROSS REFERENCES**

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Comment: 1995 Public Advisory Task Force Efforts

Following the State's rescission of the ISWP in 1995, eight Public Advisory Task Forces were established to deal with specific issues and problems that either arose after the plan was adopted in 1991 or were carried over from the pre-adoption public review period. These task forces were comprised of representatives from numerous public groups and agencies, including the EPA. In hindsight, it is important to note that many of the problems that were identified and addressed by the task forces review can be attributed to the similarities between the proposed Rule and the ISWP. In view of the fact that the task forces were able to achieve consensus with respect to their individual recommendations for plan revision, we believe that the EPA should acknowledge these efforts in the CTR as a means of encouraging the development of an EPA-approved State priority-pollutant plan.

Response to: CTR-057-009

See response to CTR-009-001.

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Comment ID: CTR-086-005  
Comment Author: EOA, Inc.  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org: California Dent  
Document Date: 09/26/97  
Subject Matter Code: T State Implementation Policy  
References: Letter CTR-086 incorporates by reference letter CTR-035  
Attachments? N  
CROSS REFERENCES

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Comment: It is important that the significant efforts and accomplishments of the Task Forces not be ignored in this CTR promulgation process. CDA suggests that EPA consider providing more specific guidance to the State on the need for, and use of, regulatory flexibility beyond its statement that "EPA supports the State's consideration of stakeholder Task Force recommendations to help deal with these controversial and complex issues." (p. 42185)

Response to: CTR-086-005

See response to CTR-009-001.

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Comment ID: CTR-086-007  
Comment Author: EOA, Inc.  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org: California Dent  
Document Date: 09/26/97  
Subject Matter Code: T State Implementation Policy  
References: Letter CTR-086 incorporates by reference letter CTR-035  
Attachments? N  
CROSS REFERENCES

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Comment: The CTR criteria need to be specifically and directly linked in the regulations to the State's Implementation Policy. Furthermore, the CTR and the Implementation Policy need to be moved to more parallel tracks and reviewed and adopted at the same time, not in series. EPA needs to provide more specific direction to the State on how and under what conditions regulatory relief options will be pursued jointly by the State and/or Regional Boards and impacted dischargers.

CDA appreciates the opportunity to comment on the draft CTR.

Response to: CTR-086-007

See response to CTR-009-001.

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Comment ID: CTR-090-009

Comment Author: C&C of SF, Public Util. Commis.  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: T State Implementation Policy  
References: Letter CTR-090 incorporates by reference letters CTR-035 and CTR-054  
Attachments? Y  
**CROSS REFERENCES**

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Comment: We recommend that EPA:

1. Incorporate in the rule, not the preamble, the implementation of the regulatory relief such as the tiered mixing zones, the use of translators, the use of the water effects ratio, interim limits and compliance schedules. Without these assurances and inclusion of these in the rule the economic analysis is useless.

Response to: CTR-090-009

EPA believes that it is not necessary to include implementation of regulatory relief such as tiered mixing zones, translators, and interim limits in today's rule since these issues are closely related to the issuance of permits which is properly deferred to the State, the permitting authority. In fact, shortly after the publication of the proposed CTR, the State's Draft Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California proposed the use mixing zones, translators, water effects ratio, interim limits, and compliance schedules as appropriate to develop discharge limits for permits.

The CTR does include a compliance schedule provision and incorporates the water effects ratio into the calculation of the water quality criteria if appropriate.

EPA disagrees with the commenter's assertion that the economic analysis is useless unless the CTR includes the implementation measures stated by the commenter. EPA believes that the economic analysis is useful since it presents a range of possible economic impacts which vary depending upon a number of assumptions about how the State could implement the rule, including the use of regulatory relief.

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Comment ID: CTR-092-001  
Comment Author: City of San Jose, California  
Document Type: Local Government  
State of Origin: CA  
Represented Org:  
Document Date: 09/26/97  
Subject Matter Code: T State Implementation Policy  
References: Letter CTR-092 incorporates by reference letter CTR-035  
Attachments? Y  
**CROSS REFERENCES**

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Comment: Relationship Between the CTR and State Implementation

The City of San Jose understands the level of effort that has gone into this rulemaking process. We find much of the preamble to the Rule to encouraging and generally support the road map to implementation of the rule that is laid out in the preamble.

The preamble describes a number of potential regulatory approaches that could be used by the State to implement the criteria proposed in the CTR. Regulatory tools such as translator mechanisms, water effect ratios, site specific objectives, interim limits while performing special studies, mixing zones, compliance schedules and trading programs are all good examples of regulatory approaches that should be used, especially under conditions such as those which exist in South San Francisco Bay, where water quality has improved tremendously in the recent past, yet full attainment of water quality objectives is still not possible.

EPA's Economic Analysis makes it clear that EPA is not only supporting use of these regulatory tools by the State, but is in fact assuming that they will be used. The accuracy of this assumption is questionable at this point in time, in light of the State's historic approach to implementation. Since EPA has the responsibility to approve any of the implementation procedures that the State decides to employ, we believe it is necessary for EPA to play an active role in the implementation phase.

Although we have not had an opportunity to review and comment on the recently issued "Proposed Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California", we believe that the implementation policy presents an opportunity to resolve the uncertainty concerning whether the State will adopt reasonable, flexible approaches to implementing the criteria that would be established by the CTR. We are requesting that the uncertainties concerning State implementation be resolved before the CTR is finalized.

Response to: CTR-092-001

See response to CTR-009-001.

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Comment ID: CTRH-001-055  
Comment Author: Michael Lozeau  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: S.F. Bay/Delta Keeper  
Document Date: 09/17/97  
Subject Matter Code: T State Implementation Policy  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: I have one more thing I can hardly read here. I was just referring back to Phil Bobel, who mentioned the state's process.

I would certainly not encourage you to do what the state has tried to do for the last three years, which is a very complicated, totally burdensome task force stakeholder process, which had most of the environmental groups walking away from it for lack of resources to keep up with all of the meetings.

And that had the result of nothing, essentially no -- I guess implementation came on Friday suddenly, but

no criteria came out of that process at all, despite all those meetings. So I certainly don't encourage you to follow that.

I think a reasonably swift process here is warranted. We're already four years late, so I would certainly encourage you to finish this rule as quickly as possible, and hopefully people will be able to make intelligent comments about it.

Response to: CTRH-001-055

No response required by comment.

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Subject Matter Code: V Collaborative Approach

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Comment ID: CTR-031-002e

Comment Author: Fresno Metro. Flood Ctrl Dist.

Document Type: Flood Ctrl. District

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: V Collaborative Approach

References: Letter CTR-031 incorporates by reference letter CTR-027

Attachments? N

CROSS REFERENCES F

C-17a

C-17b

J

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Comment: 2. Since the preamble implies that CTR criteria may be applied in NPDES permits for municipal storm water dischargers as numeric effluent limitations, the proposed rule is flawed with regard to: a) setting attainable, scientifically valid criteria in a manner consistent with state and federal regulatory approaches; b) assessing the potential economic impact on the public served by municipal storm water dischargers; c) assessing environmental impacts pursuant to the National Environmental Policy Act and the Endangered Species Act; and d) providing for the coordinated review and evaluation of the proposed CTR in conjunction with the proposed State Implementation Plan.

Response to: CTR-031-002e

EPA has coordinated the CTR schedule to coincide as closely as possible with the State's Implementation Plan. However, EPA wishes to promulgate the CTR as soon as possible. Therefore, EPA could not commit that the proposed CTR would be released at the same time as the proposed State Implementation Policy. For the same reasons, EPA cannot ensure that the final CTR will be released at the same time as the final State implementation policy. EPA and the State have made every effort to ensure that its separate actions will work well together and are consistent with one another.

With respect to ESA, EPA has completed consultation as required by Section 7 of the ESA. With respect to compliance with NEPA, section 511(c) of the Clean Water Act excludes this rulemaking from the requirements of NEPA. The comment also assumes that stormwater discharges subject to numeric effluent limitations will have to be treated by new end-of-pipe facilities. As explained in the response to Storm Water Economics Comments (Category J, Comment # 040-004), EPA believes that implementation of criteria as applied to wet-weather discharges will not require the construction of end-of-pipe facilities.

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Comment ID: CTR-031-008b

Comment Author: Fresno Metro. Flood Ctrl Dist.

Document Type: Flood Ctrl. District

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: V Collaborative Approach

References: Letter CTR-031 incorporates by reference CTR-027

Attachments? N

#### CROSS REFERENCES B

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Comment: d. The proposed CTR and the recently released proposed State Implementation Plan must be fully integrated, internally consistent, and their combined effect thoroughly assessed. However, EPA has allowed only one week of overlap between the proposals for stakeholder review.

The EPA concedes within the proposed CTR that the criteria themselves lack substance without the corresponding implementation measures. EPA also acknowledges that the economic impact of the CTR can not be fully evaluated without consideration of the ISWP. However, the EPA can not simply abdicate its responsibility to assess the impact of its proposal, nor can it expect stakeholders to accept the proposed CTR without full understanding of its implementation.

All stakeholders require the opportunity to evaluate the proposed CTR and Implementation Plan together as a comprehensive, cohesive body of regulation.

Response to: CTR-031-008b

EPA has coordinated the CTR schedule to coincide as closely as possible with the State's Implementation Plan. However, EPA must promulgate the CTR as soon as possible to comply with its statutory obligations under the Clean Water Act. Therefore, EPA could not commit that the proposed CTR would be released at the same time as the proposed State Implementation Policy. For the same reasons, EPA cannot ensure that the final CTR will be released at the same time as the final State implementation policy. EPA and the State have made every effort to ensure that its separate actions will work well together and are internally consistent.

EPA agrees that the CTR without the corresponding implementation measures would have no direct effect on permittees. However, EPA disagrees that it has abdicated its responsibility to assess the impact of the proposal. EPA has projected the potential economic impacts of the CTR using reasonable implementation measures which are either already used by the State or are recommended in EPA's Technical Support Document (TSD) EPA believes this methodology is appropriate and reasonable since EPA cannot anticipate the final State implementation measures. EPA's estimates measure the impact of the CTR combined with the implementation procedures EPA believes are reasonable for the State to adopt. If the State adopts implementation procedures that differ from EPA recommended procedures, the change in impact will be reflected in the State's economic analysis.

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Comment ID: CTR-032-005a

Comment Author: Las Gallinas Val. Sanitary Dist

Document Type: Sewer Authority

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: V Collaborative Approach

References: Letter CTR-032 incorporates by reference letter CTR-035

Attachments? N

#### CROSS REFERENCES T

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Comment: The CTR criteria need to be specifically and directly linked in the regulations to the State's Implementation Policy. Furthermore, the CTR and the Implementation Policy need to be moved to more parallel tracks and reviewed and adopted at the same time, not in series. EPA needs to provide more specific direction to the State on how and under what conditions regulatory relief options will be pursued jointly by the State and/or Regional Boards and impacted dischargers. The concept of numeric triggers should be refined, or an equivalent threshold identified, above which specific regulatory relief options would be pursued and requirements for major treatment plant improvements held in abeyance. Without these types of commitments and the linkage of the two regulatory actions, there is no sound basis for the CTR cost estimates.

Response to: CTR-032-005a

See response to CTR-031-008b. With regard to providing regulatory relief, the State has discretion to what extent it will provide regulatory relief in its water quality standards program and NPDES program. EPA disagrees with the assertion that it has no sound basis for estimating costs if it does not link both regulatory actions. The numeric cost triggers in EPA's economic analysis are used to establish a lower bound of costs since EPA cannot anticipate exactly how the State will implement regulatory relief on a case-by-case basis. To provide a more conservative cost estimate, EPA did not use the numeric cost triggers for its upper bound cost estimate. In effect, the upper bound cost estimate assumes that the State will not provide any regulatory relief.

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Comment ID: CTR-034-002

Comment Author: SCAP

Document Type: Trade Org./Assoc.

State of Origin: CA

Represented Org:

Document Date: 09/25/97

Subject Matter Code: V Collaborative Approach

References: Letter CTR-034 incorporates by reference letter CTR-035

Attachments? N

**CROSS REFERENCES**

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Comment: Equally important, we also urge EPA to work more closely with the State Water Resource Control Board (SWRCB), including such steps as the use of simultaneous comment periods and joint final promulgation. This heightened level of coordination would truly enhance the effectiveness of both EPA and the State's efforts to comply with Section 303(c)(2)(B) of the Clean Water Act, since, as EPA acknowledges in numerous locations in the Preamble, the impacts of the CTR criteria depend greatly on the State's approach to implementation (see, for instance, pp. 42188 and 42191). Thus, an important reason for EPA to grant our request to reopen the comment period is to allow sufficient time to review the draft CTR in the context of the SWRCB's recently released Statewide Implementation Policy. Thus, we ask that EPA extend the comment period until December 10, 1997, the SWRCB's public comment deadline, or, at a minimum, for 30 days.

Response to: CTR-034-002

See response to CTR-031-002e. Regarding request for extension in the comment period see section on Comment Period (Category B, CTR-001-001).

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Comment ID: CTR-054-015  
Comment Author: Bay Area Dischargers Assoc.  
Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 09/25/97  
Subject Matter Code: V Collaborative Approach  
References:  
Attachments? Y  
CROSS REFERENCES

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Comment: EPA should use a collaborative approach to address the major issues raised by BADA and other commenters. The CTR is extremely important to all stakeholders, including the regulated community, the environmental community, and the regulatory agencies. The traditional rule-making approach does not lend itself to resolving the issues raised in a manner that will satisfy the various stakeholders. The State Plan Task Force experience has demonstrated that varying interests can come together and quickly reach consensus on how to address statutory and regulatory requirements in a mutually satisfactory manner. BADA would encourage EPA to use such an approach in preparing a final CTR and would offer to assist EPA in organizing such an approach.

Response to: CTR-054-015

EPA has decided that to promulgate the CTR in a timely manner it is necessary to use the traditional rule-making approach rather than a collaborative approach involving stakeholders or a regulatory negotiation approach. The EPA must promulgate CTR water quality criteria as quickly as possible to fill the gap in California that has existed for five years. In promulgating a final rule EPA has considered all written and verbal comments as well as applicable State Plan Task Force recommendations. After consideration of all comments, EPA must ultimately promulgate criteria that are protective, scientifically defensible, and meet the requirements of the Clean Water Act. EPA believes the traditional notice and comment rule-making approach is the best way of fulfilling its obligations under the Clean Water Act in the most timely manner.

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Comment ID: CTRE-001-001b  
Comment Author: Tri-TAC/CASA  
Document Type: Trade Org./Assoc.  
State of Origin: CA  
Represented Org:  
Document Date: 07/21/97  
Subject Matter Code: V Collaborative Approach  
References:  
Attachments? N  
CROSS REFERENCES B

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Comment: We are writing to you on behalf of Tri-TAC and the California Association of Sanitation Agencies regarding the forthcoming publication of the proposed Water Quality Standards for Toxic Pollutants for California ("California Toxics Rule") and release of draft state implementation policies

and functional equivalent document. As you are aware, Tri-TAC and CASA have supported the decisions of the U.S. Environmental Protection Agency (EPA) and the State Water Resources Control Board (SWRCB) to eliminate duplication in state and federal water quality rulemaking activities through the pursuit of a collaborative approach. Our understanding is that, through this approach, EPA will adopt water quality criteria for toxic pollutants that will apply in California and the SWRCB will adopt implementation policies that will guide the Regional Water Quality Control Boards in the implementation of those criteria. In a later phase, the SWRCB intends to adopt state criteria that will replace the federal criteria.

We have been informed recently by EPA staff that publication of the draft California Toxics Rule is imminent and is expected to take place by the end of July. According to staff, a 50-day public comment period will be provided. We have heard from SWRCB staff that they plan to release the proposed state implementation policies and FED on September 12. We have asked each agency to provide an overlapping comment period for these draft regulations, and have been informed that the current schedule will provide about one week of overlap, assuming that both agencies release their drafts on schedule. We are quite concerned about this situation in several respects. First, we believe that a one-week overlap does not provide sufficient time for a meaningful review and comparison of the regulations (and comparative analysis of the economic impact analyses, which depend heavily on the implementation policies). We believe that a minimum of 30 days is necessary for the overlap review period, and that the slight delay that this would create for EPA is warranted and would have a negligible impact on the timing of the overall rule promulgation process. Second, we are very concerned about whether the SWRCB will meet its projected release schedule. While we believe that sufficient time has been available to prepare the draft policies and FED, it is imperative that the SWRCB do everything possible to meet its commitment to move forward in a timely manner, and that any extension of EPA's comment period not be used to adjust the state's schedule. Third, we understand that both EPA and the SWRCB plan to hold public hearings regarding their respective proposals this fall. We believe that it is important that representatives of both agencies attend and participate in the hearings that each agency holds, and that an explanation be provided regarding both the CTR and the implementation policy.

In short, we request that EPA and the SWRCB carefully review their efforts to coordinate both the development and release of the California Toxics Rule and State implementation Policies, and specifically, we request that EPA provide a comment period sufficient to ensure that a 30-day overlap will occur with the SWRCB's release of the FED for the State Implementation Policies. More generally, we hope that both agencies will offer flexibility in the promulgation process so that the various scheduling and review needs can be met. We hope that your respective agencies will continue to move forward with a collaborative rulemaking process, and are concerned that cooperation not break down due to institutional barriers at this point in the process.

Thank you for your consideration of our comments. We would be happy to discuss these issues further at your convenience.

Response to: CTRE-001-001b

See response to CTR-031-002e. Regarding request for extension in the comment period see section on Comment Period (Category B, CTR-001-001).

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Comment ID: CTRE-023-001b

Comment Author: Bay Area Dischargers Assoc.

Document Type: Sewer Authority  
State of Origin: CA  
Represented Org:  
Document Date: 07/17/97  
Subject Matter Code: V Collaborative Approach  
References:  
Attachments? N  
CROSS REFERENCES B

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Comment: The Bay Area Dischargers Association (BADA) is comprised of 10 POTWs in the San Francisco Bay Area. Our five largest charter members include the Central Contra Costa Sanitary District, City and County of San Francisco, City of San Jose, East Bay Dischargers Authority, and East Bay Municipal Utility District. Together BADA agencies provide wastewater service to most of the Bay Area.

BADA requests that the U.S. EPA allow at least 90 days for public review of the proposed California Toxics Rule (CTR). We understand the proposed rule will be published in the Federal Register toward the end of this month. The reasons for our request are as follows:

1. The CTR could have a significant economic impact on California municipalities and businesses. In order to properly assess the impacts of the proposed CTR standards, it is necessary to know how the standards are to be implemented. Yet, the proposed implementation provisions being developed by the State Water Resources Control Board will not be available until September 12, 1997. The several days of overlap are insufficient for California municipalities and businesses to assess the economic and environmental impacts of the proposed standards. At least 45 days of overlap is needed.
2. The U.S. EPA has spent more than three years developing the proposed CTR, in part because of its importance. It is therefore, reasonable to provide at least 90 days for the public to review and comment on the rule, especially considering its potential economic impact on the State and the unavailability of the implementation provisions
3. It is recommended that the EPA work closely with the SWRCB during the review period to define the implementation policy and procedures that the EPA would be likely to approve.

For these reasons, BADA urges you to issue a notice extending the review period from 45 days to 90 days.

Response to: CTRE-023-001b

Regarding request for extension in the comment period see section on Comment Period (Category B, CTR-001-001).

EPA did review the State's proposed implementation policy and procedures. EPA provided written comments to the SWRCB on December 9, 1997. These comments and other communications with the SWRCB are likely to facilitate EPA's review of the final SWRCB implementation plan.

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Comment ID: CTRH-001-019b

Comment Author: Phil Bobel  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: Tri-TAC  
Document Date: 09/17/97  
Subject Matter Code: V Collaborative Approach  
References:  
Attachments? N  
**CROSS REFERENCES B**

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Comment: MR. BOBEL: Thank you, Steve.

I'm Phil Bobel. I represent Tri-TAC, an organization of sewage treatment plants, the POTWs as we call them, made up of three groups: CASA, the California Association of Sanitation Agencies; the League of Cities; and the California Water Environment Association.

And later this afternoon you're going to hear from Bob Reid who represents CASA. And our comments are essentially the same, so I'm going to not repeat and just summarize a couple things.

I was even going to say you guys had done a really good job. But in light of all the previous speakers, I deleted that part of my testimony.

I will try to be positive and constructive. I promised to do that. In describing the nature of my comments on your little form, I put that I would be constructive. So I will do that.

The first point I'd like to make is positive. I think that the coordination you're doing with the state is great. The fact that we're going to have coordination with the feds focusing on the numeric criteria, the state focus on the implementation policy, working to come up with a system that will serve us all, is a good way to use resources of both organizations.

I applaud you for that and hope you will be able to pull that off. This is different than what we've tried to do before, and it will require some creativity.

One specific thing that I think would help if we did, is to allow all of us to see both what the state is proposing and what the feds are proposing, so we need a little more time in this comment period.

We've appealed before and been told no, but I still put that on the table as a good idea for the ultimate goal of a coordinated, consolidated, as much as possible, federal and EPA approach to this thing.

If you don't do that, or even if you do do that, I think it's going to require some other kinds of creativity as we move out of -- away from your hearing and toward a final rule.

And in that period of time, I would ask you and the state to sit down together and see what kind of a process you can use to take the comments that you'll hear from your federal regs and the comments you hear on the state plan, and put those together, hear more back from folks that are interested and come up with a package that makes sense.

You're going to need some way of going back to interested parties over a longer period of time -- communicating, coordinating -- and I would refer you to the process that the state used on their task force

approach and suggest that we need something like that as we move to the future. Creativity is going to be needed.

Response to: CTRH-001-019b

EPA has decided that to promulgate the CTR in a timely manner it is necessary to use the traditional rule-making approach rather than a collaborative approach involving stakeholders or a regulatory negotiation approach. The EPA must promulgate CTR water quality criteria as quickly as possible to fill the gap in California that has existed for five years. In promulgating a final rule EPA has considered all written and verbal comments as well as applicable State Plan Task Force recommendations. After consideration of all comments, EPA must ultimately promulgate criteria that are protective, scientifically defensible, and meet the requirements of the Clean Water Act. EPA believes the traditional notice and comment rule-making approach is the best way of fulfilling its obligations under the Clean Water Act in the most timely manner.

EPA and the State have made every effort to ensure that its separate actions will work well together and are internally consistent.

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Comment ID: CTRH-001-025  
Comment Author: Michelle Pla  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: S.F. Public Utilities Com  
Document Date: 09/17/97  
Subject Matter Code: V Collaborative Approach  
References:  
Attachments? N  
CROSS REFERENCES

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Comment: I also want to back up the comment that Phil made about CASA. San Francisco is a member through the League of Cities, with Tri-TAC -- San Francisco is a member of Tri-TAC through the League of Cities, and also agree that you need to be creative here.

You may be taking the approach that this is a rulemaking for you, and once you're done making the rule, you're out. But because of the fact that we've come to a different perspective with you adopting numbers and statements looking at implementation, you're going to have to do an awful lot of creative work to -- working outside of models we're used to, in order to get to something that's going to make sense for the waters of the State of California, that's going to make sense for the people fishing and eating the fish.

So I really want to back up Phil and everyone else that makes those comments. That's very critical.

Response to: CTRH-001-025

See response to CTRH-001-019b.

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Comment ID: CTRH-001-030  
Comment Author: Michelle Pla

Document Type: Public Hearing  
State of Origin: CA  
Represented Org: S.F. Public Utilities Com  
Document Date: 09/17/97  
Subject Matter Code: V Collaborative Approach  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: I think I want to close again with there's some really great things in there. There's also some flaws. And I think we're really missing the boat if we don't try to think outside of just a regular rulemaking here and begin thinking about a watershed approach, how we're going to get to making these waters clean.

And that's got to take a collaboration between EPA and the state that we haven't probably seen before. And I know you're attempting to do that. I want to encourage you to keep working on that.

Thank you.

Response to: CTRH-001-030

See response to CTRH-001-030.

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Comment ID: CTRH-001-056  
Comment Author: Dave Tucker  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: San Jose Env. Serv. Dept.  
Document Date: 09/17/97  
Subject Matter Code: V Collaborative Approach  
References:  
Attachments? N  
**CROSS REFERENCES**

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Comment: MR. TUCKER: My name is Dave Tucker and I will be delivering Lou Garcia's comments today. He stepped away for a few minutes, then reappeared, but I got overcome by this. I'll keep my comments brief.

My comments will be on behalf of the City of San Jose Environmental Services Department. We will keep our comments brief today. We will be following up with extensive written comments by the close of the comment period next week.

I'm going to discuss two topics this afternoon. One is about the things that we support highly, and that is the flexibility and innovation that is included in the program regarding water quality standards.

However, we do recommend that EPA take a more active or proactive approach to employing such flexibility during the interim period between the federal promulgation and that of the completion of the statewide process, and that EPA be an active participant, actually extending into the water quality

planning and implementation process to California as an on-line stakeholder.

Response to: CTRH-001-056

EPA did review the State's proposed implementation policy and procedures. EPA provided written comments to the SWRCB on December 9, 1997. These comments and other communications with the SWRCB are likely to facilitate EPA's review of the final SWRCB implementation plan. EPA plans to continue to be an active participant into the water quality planning and implementation process in California.

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Comment ID: CTRH-002-021b  
Comment Author: Ing-Yig Cheng  
Document Type: Public Hearing  
State of Origin: CA  
Represented Org: L.A. Bureau of Sanitation  
Document Date: 09/18/97  
Subject Matter Code: V Collaborative Approach  
References:  
Attachments? N  
CROSS REFERENCES B

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Comment: As you are aware, the California Policy for Implementation of Toxics Standards for Inland Surface Water, Enclosed Bays, and Estuaries of California, the proposed policy, was issued a few days ago. EPA and State essentially had the same objective to establish water quality criteria that are implementable for the water of California. Therefore, it is necessary for regulators and dischargers alike to fully comprehend the consequences of these rules on similar issues but from perhaps a different perspective.

Consequently, we strongly urge EPA to allow for additional 30 days for you and for us to fully review both documents together. We also urge EPA and State to coordinate these two rule-making process to minimize inconsistencies that might otherwise occur, EPA is the final focal point of this concern because the process of State's obtaining EPA approval of ISWP and EBEP will be greatly enhanced if EPA and State can work together; and without EPA's approval, State's plan will be no good. So I think it will be ideal if CTR and the State's proposed policy can be promulgated simultaneously.

Thank you again for the opportunity to address you.

Response to: CTRH-002-021b

Regarding request for extension in the comment period see section on Comment Period (Category B, CTR-001-001).

EPA did review the State's proposed implementation policy and procedures. EPA provided written comments to the SWRCB on December 9, 1997. These comments and other communications with the SWRCB are likely to facilitate EPA's review of the final SWRCB implementation plan.

EPA has coordinated the CTR schedule to coincide as closely as possible with the State's Implementation

Plan. However, EPA must promulgate the CTR as soon as possible to comply with its statutory obligations under the Clean Water Act. Therefore, EPA could not commit that the proposed CTR would be released at the same time as the proposed State Implementation Policy. For the same reasons, EPA cannot ensure that the final CTR will be released at the same time as the final State implementation policy. EPA and the State have made every effort to ensure that its separate actions will work well together and are internally consistent.

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