California Regional Water Quality Control Board
San Francisco Bay Region

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Linda S. Adams
Secretary for
Environmental Protection

Arnold Schwarzenegger
Governor

ORDER NO. R2-2010-0058
NPDES NO. CA0006165

The following Discharger is subject to waste discharge requirements set forth in this Order.

Table 1. Discharger Information

Discharger	Rhodia Inc.
Name of Facility	Rhodia Inc. Martinez Plant
Facility Address	100 Mococo Road
	Martinez, CA 94553
	Contra Costa County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

Discharges by the Rhodia Inc. Martinez Plant from the discharge points identified below are subject to waste discharge requirements as set forth in this Order.

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Treated Process Wastewater	38º 02’ 18” N	122º 07’ 01” W	Carquinez Strait
002	Storm Water	38º 01’ 52” N	122º 06’ 40” W	Peyton Slough

Table 3. Administrative Information

This Order was adopted by the Regional Water Board on:	**March 10, 2010**
This Order shall become effective on:	**May 1, 2010**
This Order shall expire on:	**April 30, 2015**
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	**180 days prior to the Order expiration date**

I, Bruce H. Wolfe, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on March 10, 2010.

Digitally signed by Bruce Wolfe
Date: 2010.03.11 10:57:23 -08'00'

Bruce H. Wolfe, Executive Officer

Table of Contents

I. Facility Information ... 3
II. Findings ... 3
III. Discharge Prohibitions ... 9
IV. Effluent Limitations and Discharge Specifications – Discharge Points 001 and 002 ... 9
V. Receiving Water Limitations ... 12
VI. Provisions ... 13
A. Standard Provisions ... 13
B. Monitoring and Reporting Program Requirements ... 13
C. Special Provisions ... 13
1. Reopener Provisions ... 13
2. Special Studies, Technical Reports, and Additional Monitoring Requirements ... 14
3. Best Management Practices and Pollution Minimization ... 15
4. Storm Water Pollution Prevention Plan and Annual Report – Discharge Point 002 ... 17
5. Action Plan for Copper ... 18
6. Action Plan for Cyanide ... 19
7. Best Technology Study ... 20
VII. Compliance Determination ... 20

Tables

Table 1. Discharger Information ... 1
Table 2. Discharge Locations ... 1
Table 3. Administrative Information ... 1
Table 4. Facility Information ... 3
Table 5. Beneficial Uses of Peyton Slough and Carquinez Strait ... 6
Table 6. Effluent Limitations for Conventional and Non-Conventional Pollutants ... 9
Table 7. Effluent Limitations for Toxic Pollutants ... 10
Table 8. Copper Action Plan ... 19
Table 9. Cyanide Action Plan ... 19
Table 10. Best Technology Study ... 20

Attachments

Attachment A – Definitions ... A-1
Attachment B – Facility Map ... B-1
Attachment C – Process Flow Diagram ... C-1
Attachment D – Federal Standard Provisions ... D-1
Attachment E – Monitoring and Reporting Program (MRP) ... E-1
Attachment F – Fact Sheet ... F-1
Attachment G – Regional Standard Provisions ... G-1

I. FACILITY INFORMATION

The following Discharger is subject to the waste discharge requirements set forth in this Order:

Table 4. Facility Information

Discharger	Rhodia Inc.
Name of Facility	Rhodia Inc. Martinez Plant
Facility Address	100 Mococo Road
	Martinez, CA 94553
	Contra Costa County
Facility Contact, Title, and Phone	Anthony Koo, Environmental Coordinator, 925-313-8221
Mailing Address	Same as Facility Address
Type of Facility	Sulfuric Acid Regeneration Plant
Facility Design Flow	0.8 million gallons per day (MGD) (maximum permitted flow rate)

II. FINDINGS

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the Regional Water Board), finds:

A. Background. Rhodia Inc. (hereinafter the Discharger) is currently discharging under Order No. R2-2004-0042 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0006165. The Discharger submitted a Report of Waste Discharge, dated January 30, 2009, and applied to renew its NPDES permit to discharge up to 0.8 MGD (maximum permitted flow) of treated process wastewater from its Martinez Plant to Carquinez Strait. The Discharger's discharge is also currently regulated under Order No. R2-2007-0077 (NPDES Permit CA0038849), which superseded all requirements on mercury from wastewater discharges in the region. The mercury permit is unaffected by this Order.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and State laws, regulations, plans, or policies are held to be equivalent to references to the Discharger herein.

B. Facility and Discharge Description.

1. **Facility Description.** The Discharger owns and operates the Rhodia Inc. Martinez Plant (Plant), which is a sulfuric acid regeneration facility. The Discharger uses spent sulfuric acid from petroleum refineries and molten sulfur as raw materials in a regeneration process to manufacture approximately 300,000 tons per year of various grades and strengths of sulfuric acid. The Discharger injects spent sulfuric acid and molten sulfur into a high temperature (1800°F) industrial furnace with a mixture of fuel and air. The spent sulfuric acid is decomposed, and the sulfur is combusted to form a sulfur dioxide rich gas. The gas is cooled through a waste heat boiler and a quench tower. It then enters an electrostatic precipitator that removes particulate contaminants. The process gas is further cooled and cleaned in gas coolers and a second stage electrostatic precipitator. It is then dried in a drying tower. A centrifugal compressor forces the gas through a catalytic converter to convert sulfur dioxide to sulfur trioxide. The sulfur trioxide combines with water to produce sulfuric acid in an absorbing

tower. As a final process, the gas containing unconverted sulfur dioxide is discharged to the atmosphere after it is cleaned in an ammonia scrubber/mist eliminator, where the sulfur dioxide reacts with ammonia to form ammonium bisulfite and ammonium sulfate for sale as fertilizer.

Process wastewater generated in the sulfuric acid regeneration process consists of cooling tower blowdown, acidic process water, boiler blowdown, and various scrubber and washdown waters. The Discharger also collects storm water runoff that falls in the Plant area for treatment with the process wastewaters.

The Plant is located on a former copper smelter site, where large piles of copper smelting slag and cinders sunk into the soft underlying mud and contaminated the groundwater in the north and south areas of the site. Regional Water Board Order No. R2-2008-0075 regulates the management of the contaminated groundwater. The Discharger has constructed a Process Effluent Purification (PEP) Plant, which operates 6 months of the year to treat extracted contaminated groundwater through sodium hydroxide addition for metals precipitation. The PEP plant effluent is combined with treated process wastewater and storm water and is discharged with the treated process wastewater at Discharge Point 001.

Storm water that does not come into contact with industrial activity is collected and discharged at Discharge Point 002.

2. **Treatment Process Description.** Process wastewater and storm water associated with industrial activities are first treated with sodium hydroxide and aluminum sulfate in a 23,000 gallon fiberglass tank (Tank-28) for neutralization and flocculation. Overflow from the tank is contained in a surge pond from which wastewater flows to a 13,000 gallon neutralization tank (Tank-21) for further pH adjustment. Effluent from the PEP plant enters the treatment process at Tank-21, and the combined wastewater flows to a 630,000 gallon settling pond for polishing. Wastewater is discharged from the settling pond to Carquinez Strait.

   Effluent that is to be discharged is tested daily to ensure that the discharge meets effluent limitations. Any effluent that does not comply with effluent limitations may be pumped to one of two holding ponds to be pumped back to either the PEP Plant or Tank-28 for treatment. The first pond is called the Storm Water Accumulation Pond and is used for managing storm water runoff and emergency storage of non-compliant effluent. The second pond is called the Utility/Spill Control Pond and is used primarily as a spill containment system for process spills that may occur during normal operation. It also serves to collect storm water runoff from the loading area and as a reserve holding pond for process wastewater.

3. **Discharge Description.** Treated wastewater, as described above, is discharged via a deep water diffuser to Carquinez Strait at Discharge Point 001 (38º 02’ 18” N, 122º 07’ 01” W). Storm water runoff not associated with industrial activity is discharged at Discharge Point 002 (38º 01’ 52” N, 122º 06’ 40”W) to Peyton Slough. This storm water comes from the western highlands drain collection system that collects storm water from the paved areas around the maintenance office and warehouse and from the area surrounding a closed evaporation pond.

Attachment B provides a map of the area around the Plant. Attachment C provides a flow schematic of the Plant.

C. Legal Authorities. This Order is issued pursuant to Clean Water Act (CWA) section 402 and implements regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapters 5.5, Division 7 of the California Water Code (CWC) (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from the Plant to surface waters. This Order also serves as Waste Discharge Requirements pursuant to CWC Article 4, Chapter 4, Division 7 (commencing with section 13260).

D. Background and Rationale for Requirements. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of this Order's findings. Attachments A through E and G are also incorporated into this Order.

E. California Environmental Quality Act (CEQA). Under CWC Section 13389, this action to adopt an NPDES permit is exempt from CEQA provisions.

F. Technology-Based Effluent Limitations. CWA Section 301(b) and NPDES regulations at 40 CFR 122.44 require that permits include conditions meeting applicable technology-based requirements at minimum and any more stringent effluent limitations necessary to meet applicable water quality standards. A detailed discussion of technology-based effluent limitation development is included in the Fact Sheet.

G. Water Quality-Based Effluent Limitations. CWA section 301(b) and NPDES regulations at 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

NPDES regulations at 40 CFR 122.44(d)(1)(i) mandate that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the Reasonable Potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard (Reasonable Potential). Where Reasonable Potential has been established for a pollutant that has no numeric criterion or objective, water quality-based effluent limitations (WQBELs) must be established using (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

H. Water Quality Control Plans. *The Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan) is the Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan was duly adopted by the Regional Water Board and approved by the State Water Resources Control Board (State Water Board) and the Office of Administrative Law (OAL), and USEPA. Requirements of this Order implement the Basin Plan.

The Basin Plan states that the beneficial uses of any specifically identified water body generally apply to its tributaries. The Basin Plan does not specifically identify beneficial uses for Peyton

Slough, but does specifically identify present and potential uses for Carquinez Strait, to which Peyton Slough is tributary.

The Basin Plan implements State Water Board Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). Because of the tidal and marine influence on these receiving waters, total dissolved solids levels are expected to exceed 3,000 milligrams per liter (mg/L) and thereby qualify for an exception to State Water Board Resolution No. 88-63. The MUN designation therefore does not apply to the receiving waters of this Discharger. Table 5 identifies beneficial uses that apply to Peyton Slough and Carquinez Strait, which are the receiving waters for the Plant's discharges.

Table 5. Beneficial Uses of Peyton Slough and Carquinez Strait

Discharge Point	Receiving Water Name	Beneficial Uses
001 002	Carquinez Strait and Peyton Slough (Tributary to Carquinez Strait)	Industrial Service Supply (IND) Ocean, Commercial, and Sport Fishing (COMM) Estuarine Habitat (EST) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Fish Spawning (SPWN) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Navigation (NAV)

I. **National Toxics Rule (NTR) and California Toxics Rule (CTR)**. USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995, and November 9, 1999. About forty criteria in the NTR apply in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that applied in the State. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

J. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria USEPA promulgated for California through the NTR and to the priority pollutant objectives Regional Water Board established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria USEPA promulgated through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

K. **Compliance Schedules and Interim Requirements.** SIP Section 2.1 provides that, based on an existing discharger's request and demonstration that it is infeasible to achieve immediate compliance with an effluent limitation derived from a CTR criterion, a compliance schedule may be allowed in an NPDES permit. Unless an exception has been granted under SIP Section 5.3, a compliance schedule for CTR criterion-based effluent limitations may not exceed 5 years from the

date that the permit is issued or reissued, nor may it extend beyond 10 years from the SIP effective date (or May 18, 2010). Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter.

The State Water Board adopted Resolution No. 2008-0025 on April 15, 2008, titled *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits*, which includes compliance schedule policies for pollutants that are not addressed by the SIP. This policy has been approved by OAL and USEPA, and became effective on August 27, 2008.

L. Alaska Rule. On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards become effective for CWA purposes [65 Fed. Reg. 24641 (April 27, 2000) (codified at 40 CFR 131.21)]. Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

M. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based limits and WQBELs for individual pollutants. The technology-based limitations consist of restrictions on chemical oxygen demand (COD), total suspended solids (TSS), oil and grease, and settleable solids. Fact Sheet (Attachment F) discusses the derivation of these technology-based limitations. This Order's technology-based pollutant restrictions implement the minimum applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum federal technology-based requirements as necessary to meet water quality standards.

WQBELs in this Order implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs are derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The procedures for calculating the individual WQBELs for priority pollutants are based on the SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under State law and submitted to USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for the purposes of the CWA" pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the CWA requirements.

N. Antidegradation Policy. NPDES regulations at 40 CFR 131.12 require that State water quality standards include an antidegradation policy consistent with federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution No. 68-16, which incorporates the federal antidegradation policy where it applies and requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

O. Anti-Backsliding Requirements. CWA Sections 402(o)(2) and 303(d)(4) and NPDES regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Some effluent limitations in this Order are less stringent than those in Order No. R2-2004-0042. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

P. Monitoring and Reporting. NPDES regulations at 40 CFR 122.48 require that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.

Q. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that apply under 40 CFR 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the Fact Sheet.

S. Provisions and Requirements Implementing State Law. There are no provisions or requirements in this Order that are included to implement State law only. Such provisions or requirements are not required or authorized under the federal CWA, and consequently, violations of such provisions or requirements are not subject to the enforcement remedies that are available for NPDES violations.

T. Notification of Interested Parties. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet (Attachment F).

U. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. The Fact Sheet provides details of the public hearing.

IT IS HEREBY ORDERED that this Order supersedes Order No. R2-2004-0042, except for enforcement purposes, and, in order to meet the provisions contained in CWC Division 7 (commencing with section 13000) and regulations adopted thereunder, and CWA provisions and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

A. Discharge of treated wastewater at a location or in a manner different from that described in this Order is prohibited.

B. Discharge at Discharge Point 001 to Carquinez Strait such that the treated wastewater does not receive an initial dilution of at least 10:1 is prohibited.

C. The bypass of untreated or partially treated wastewater to waters of the United States is prohibited, except as provided for in Sections I.G.2 and I.G.4 of Attachment D of this Order.

D. The discharge flow rate measured at Monitoring Location E-001, as described in the attached Monitoring and Reporting Plan (MRP) (Attachment E), shall not exceed 0.8 MGD.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS – DISCHARGE POINTS 001 AND 002

1. Limitations for Conventional and Non-Conventional Pollutants – Discharge Point 001

The Discharger shall maintain compliance with the following effluent limitations for Discharge Point 001, with compliance measured at Monitoring Location E-001, as described in the attached MRP (Attachment E).

Table 6. Effluent Limitations for Conventional and Non-Conventional Pollutants

Parameter	Units	Effluent Limitations			
		Average Monthly (1)	Maximum Daily (2)	Instantaneous Minimum	Instantaneous Maximum
Chemical Oxygen Demand (COD)	mg/L	---	74	---	---
	kg/day	---	68	---	---
Total Suspended Solids (TSS)	mg/L	20	30	---	---
	kg/day	9.5	28	---	---
Oil and Grease	mg/L	---	5	---	---
	kg/day	---	4.6	---	---
pH (3)	s.u.	---	---	6.0	9.0

Footnotes to Table 6:
Units:
mg/L = milligrams per liter
kg/day = kilograms per day
s.u. = standard units

(1) Average monthly mass-based limitations are based on the long term average flow of 0.125 MGD.
(2) Maximum daily mass-based limitations are based on the maximum daily dry weather flow of 0.244 MGD.
(3) If the Discharger monitors pH continuously, pursuant to 40 CFR 401.17, the Discharger shall be in compliance with the pH limitation specified herein provided that both of the following conditions are satisfied: (i) the total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (ii) no individual excursion from the range of pH values shall exceed 60 minutes.

2. Effluent Limitations for Toxic Pollutants – Discharge Point 001

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location E-001, as described in the attached MRP (Attachment E).

Table 7. Effluent Limitations for Toxic Pollutants

Parameter	Units	Final Effluent Limitations (1)	
		Average Monthly	Maximum Daily
Arsenic	µg/L	250	620
Cadmium	µg/L	6.2	15
Copper	µg/L	53	120
Lead	µg/L	14	27
Selenium	µg/L	37	46
Silver	µg/L	9.6	22
Cyanide	µg/L	21	42
Dioxin-TEQ	µg/L	1.4×10^{-8}	2.8×10^{-8}
Bis(2-ethylhexyl)phthalate	µg/L	53	110
4,4-DDD	µg/L	0.00084	0.0017

Footnotes to Table 7:
(1) a. Limitations for toxic pollutants apply to the average concentration of all samples collected during the averaging period (daily = 24-hour period; monthly = calendar month).
b. All metals limitations are expressed as total recoverable metal.

3. Acute Toxicity – Discharge Point 001

a. Representative samples of the effluent at Discharge Point 001, with compliance measured at Monitoring Location E-001, as described in the attached MRP, shall meet the following limits for acute toxicity. Bioassays shall be conducted in compliance with MRP Section V.A (Attachment E).

The survival of organisms in undiluted combined effluent shall be:

- an eleven (11) sample median value of not less than 90 percent survival, and
- an eleven (11) sample 90 percentile value of not less than 70 percent survival.

b. These acute toxicity limitations are further defined as follows:

11 sample median: A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit if five or more of the past ten or less bioassay tests show less than 90 percent survival.

90th percentile: A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit if one or more of the past ten or less bioassay tests show less than 70 percent survival.

c. Bioassays shall be performed using the most up-to-date USEPA protocol and the most sensitive species based on the most recent screening test results. Bioassays shall be

conducted in compliance with *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms,* currently 5th Edition (EPA-821-R-02-012).

d. If the Discharger can demonstrate to the satisfaction of the Executive Officer that toxicity exceeding the levels cited above is caused by ammonia and that the ammonia in the discharge is not adversely impacting receiving water quality or beneficial uses, then such toxicity shall not constitute a violation of this effluent limitation.

4. Chronic Toxicity – Discharge Point 001

a. There shall be no chronic toxicity in the discharge. Chronic toxicity is a detrimental biological effect of growth rate, reproduction, fertilization success, larval development, or any other relevant measure of the health of an organism population or community.

Compliance with this limit shall be determined by analyses of indicator organisms and toxicity tests. Compliance shall be measured at E-001 as described in the MRP (Attachment E).

b. The chronic toxicity of the effluent shall be expressed and reported in toxic units (TUc), where

$$TU_c = 100 \div NOEL$$

The No Observable Effect Level (NOEL) for compliance determination is equal to IC_{25} or EC_{25} (see Attachment E, Appendix E-1). If the IC_{25} or EC_{25} cannot be statistically determined, the NOEL shall be equal to the NOEC, derived using hypothesis testing. The NOEC is expressed as the maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test.

c. The Discharger shall comply with the following tiered requirements based on results from representative samples of the effluent at Discharge Point 001, with compliance measured at E-001 as described in the MRP (Attachment E), meeting test acceptability criteria and Section V.B of the MRP (Attachment E):

(1) Conduct routine semiannual monitoring.

(2) Accelerate monitoring after exceeding a single sample maximum of 10 chronic toxicity units (TUc), consistent with Basin Plan Table 4-5 for deep-water dischargers. Accelerated monitoring shall consist of monthly monitoring.

(3) Return to routine monitoring if accelerated monitoring does not exceed the “trigger” in (2), above.

(4) If accelerated monitoring confirms consistent toxicity above the “trigger” in (2), above, initiate toxicity identification evaluation/toxicity reduction evaluation (TIE/TRE) in accordance with a workplan submitted in accordance with MRP

Section V.B.3 (Attachment E) that addresses any and all comments from the Executive Officer.

(5) Return to routine monitoring after appropriate elements of the TRE workplan are implemented and either the toxicity drops below the "trigger" level in (2), above, or, based on the results of the TRE, the Executive Officer authorizes a return to routine monitoring.

b. Test Species and Methods

The Discharger shall conduct routine monitoring with the test species and protocols specified in MRP Section V.B (Attachment E). The Discharger shall also perform Chronic Toxicity Screening Phase monitoring as described in the MRP Appendix E-1 (Attachment E). Chronic Toxicity Monitoring Screening Phase Requirements, Critical Life Stage Toxicity Tests and definitions of terms used in the chronic toxicity monitoring are identified in MRP Appendices E-1 and E-2 (Attachment E).

V. RECEIVING WATER LIMITATIONS

1. Receiving surface water limitations are based on Basin Plan water quality objectives and are a required part of this Order. The discharges shall not cause the following in Peyton Slough or Carquinez Strait:

   a. Floating, suspended, or deposited macroscopic particulate matter or foams;

   b. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;

   c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

   d. Visible, floating, suspended, or deposited oil and other products of petroleum origin; or

   e. Toxic or other deleterious substances to be present in concentrations or quantities that will cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or that render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State within one foot of the water surface:

   a. Dissolved Oxygen 7.0 mg/L, minimum

   The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.

   b. Dissolved Sulfide Natural background levels

c. pH	Within a range from 6.5 to 8.5
d. Nutrients	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

3. The discharge shall not cause a violation of any particular water quality standard for receiving waters adopted by the Regional or State Water Boards as required by the CWA and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to CWA Section 303, or amendments thereto, the Regional Water Board will revise or modify this Order in accordance with such more stringent standards.

VI. PROVISIONS

A. Standard Provisions

1. **Federal Standard Provisions.** The Discharger shall comply with Federal Standard Provisions included in Attachment D of this Order.

2. **Regional Standard Provisions.** The Discharger shall comply with all applicable items of the Regional Standard Provisions, and Monitoring Reporting Requirements (Supplement to Attachment D) for NPDES Surface Water Discharge Permits (Attachment G).

B. Monitoring and Reporting Program Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order. The Discharger shall also comply with applicable sampling and reporting requirements in the standard provisions listed in VI.A, above.

C. Special Provisions

1. **Reopener Provisions**

The Regional Water Board may modify or reopen this Order prior to its expiration date in any of the following circumstances as allowed by law:

a. If present or future investigations demonstrate that the discharges governed by this Order will have, or will cease to have, a Reasonable Potential to cause or contribute to adverse impacts on water quality or beneficial uses of the receiving waters.

b. If new or revised WQOs or Total Maximum Daily Loads (TMDLs) come into effect for the San Francisco Bay estuary and contiguous water bodies (whether statewide, regional, or site-specific). In such cases, effluent limitations in this Order will be modified as necessary to reflect updated WQOs and wasteload allocations in TMDLs. Adoption of effluent limitations contained in this Order is not intended to restrict in any way future modifications based on legally adopted WQOs or TMDLs, or as otherwise permitted under Federal regulations governing NPDES permit modifications.

c. If translator or other water quality studies provide a basis for determining that a permit condition should be modified.

d. If an administrative or judicial decision on a separate NPDES permit or WDR addresses requirements similar to this discharge.

e. Or as otherwise authorized by law.

The Discharger may request permit modification based on the above. The Discharger shall include in any such request an antidegradation and antibacksliding analysis.

2. Special Studies, Technical Reports, and Additional Monitoring Requirements

a. Effluent Characterization for Selected Constituents

The Discharger shall continue to monitor and evaluate the discharge from the Plant (measured at Monitoring Location E-001) for the constituents listed in the Regional Standard Provisions (Attachment G) according to the sampling frequency specified in the MRP (Attachment E). Compliance with this requirement shall be achieved in accordance with the specifications stated in the Regional Standard Provisions.

The Discharger shall evaluate on an annual basis if concentrations of any constituent increase over past performance. The Discharger shall investigate the cause of any such increase. The investigation may include, but need not be limited to, an increase in the effluent monitoring frequency, monitoring of internal process streams, and monitoring of influent sources. This requirement may be satisfied through identification of these constituents as "pollutants of concern" in the Discharger's Pollutant Minimization Program described in Provision VI.C.3, below. A summary of the annual evaluation of data and source investigation activities shall also be reported in the annual self-monitoring report.

A final report that presents all the data shall be submitted to the Regional Water Board no later than 180 days prior to the Order expiration date. This final report shall be submitted with the application for permit reissuance.

b. Ambient Background Receiving Water Study

The Discharger shall collect or participate in collecting background ambient receiving water monitoring data for priority pollutants for which the Regional Water Board is required to perform reasonable potential analyses and calculate effluent limitations. The data for the conventional water quality parameters (pH, salinity, and hardness) shall be sufficient to characterize these parameters in the receiving water at a point after the discharge has mixed with the receiving waters. This provision may be met, in part, through monitoring through a Collaborative Bay Area Clean Water Agencies (BACWA) Study or a similar ambient monitoring program for San Francisco Bay. This Order may be reopened, as appropriate, to incorporate effluent limits or other requirements based on Regional Water Board review of these data.

The Discharger shall submit, or cause to have submitted on its behalf, a final report that presents all these data to the Regional Water Board 180 days prior to Order expiration. This final report shall be submitted prior to or with the application for permit reissuance.

c. Optional Mass Offset

If the Discharger can demonstrate that further net reductions of the total mass loadings of 303(d)-listed pollutants (e.g., dioxin-TEQ) cannot be achieved through economically feasible measures, such as aggressive source control, wastewater reuse, and treatment plant optimization, but only through a mass offset program, the Discharger may submit to the Regional Water Board for approval a mass offset plan to reduce 303(d)-listed pollutants to the same watershed or drainage basin. The Regional Water Board may modify this Order to allow an approved mass offset program.

3. Best Management Practices and Pollution Minimization

a. Pollution Minimization Program (PMP)

The Discharger shall continue to improve, in a manner acceptable to the Executive Officer, its PMP to reduce pollutant loadings to the treatment plant and therefore to the receiving waters.

b. Annual Pollution Prevention (P2) Report

The Discharger shall submit an annual report, acceptable to the Executive Officer, no later than February 28 each calendar year. The annual report shall cover January through December of the preceding year. Each annual report shall include at least the following information:

(1) *A brief description of the treatment plant, treatment plant processes and service area.*

(2) *Discussion of current pollutants of concern.* Periodically, the Discharger shall determine which pollutants are currently a problem and/or which pollutants may be potential future problems. This discussion shall address why the pollutants were identified as pollutants of concern.

(3) *Identification of sources of pollutants of concern.* This discussion shall address how the Discharger identifies pollutant sources. The Discharger should also identify sources or potential sources not directly within its ability or authority to control, such as pollutants in the potable water supply and air deposition.

(4) *Identification and implementation of measures to reduce the sources of the pollutants of concern.* This discussion shall identify and prioritize tasks to address the Discharger's pollutants of concern. The Discharger may implement the tasks themselves or participate in a regional, State, or national group to address its pollutants of concern whenever it is efficient and appropriate to do so. A time line shall be included for the implementation of each task.

(5) *Outreach to employees.* The Discharger shall inform its employees regarding pollutants of concern, potential sources, and how they might be able to help reduce the discharge of these pollutants. The Discharger may provide a forum for employees to provide input to the program.

(6) *Continuation of Public Outreach Program.* The Discharger shall prepare a public outreach program to communicate pollution minimization measures to its service area. Outreach may include participation in existing community events such as county fairs, initiating new community events such as displays and contests during Pollution Prevention Week, conducting school outreach programs, conducting plant tours, and providing public information in various media. Information shall be specific to target audiences. The Discharger shall coordinate with other agencies as appropriate.

(7) *Discussion of criteria used to measure the PMP's and tasks' effectiveness.* The Discharger shall establish criteria to evaluate the effectiveness of its PMP. This discussion shall address specific criteria used to measure the effectiveness of each task identified in Provision VI.C.3.b.(3–6), above.

(8) *Documentation of efforts and progress.* This discussion shall detail all of the Discharger's activities in the PMP during the reporting year.

(9) *Evaluation of the PMP's and tasks' effectiveness.* The Discharger shall use the criteria established in b.(7), above, to evaluate the PMP's and tasks' effectiveness.

(10) *Identification of specific tasks and time schedules for future efforts.* Based on the evaluation of effectiveness, the Discharger shall describe how it will continue or change its PMP tasks to more effectively reduce the loading of pollutants to the treatment plant and therefore in its effluent.

c. PMP for Pollutants with Effluent Limitations

The Discharger shall develop and conduct a PMP as further described below when there is evidence (e.g., sample results reported as DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

(1) A sample result is reported as DNQ and the effluent limitation is less than the RL; or

(2) A sample result is reported as ND and the effluent limitation is less than the MDL, using definitions described in the SIP.

d. PMP Submittals for Pollutants with Effluent Limitations

If triggered by the reasons in c. above, the Discharger's PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

(1) An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling, or alternative measures approved by the Executive Officer when it is demonstrated that source monitoring is unlikely to produce useful analytical data;

(2) Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system, or alternative measures approved by the Executive Officer, when it is demonstrated that influent monitoring is unlikely to produce useful analytical data;

(3) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;

(4) Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and

(5) The annual report required by 3.b. above, shall specifically address the following items:

i. All PMP monitoring results for the previous year,

ii. A list of potential sources of the reportable priority pollutant(s),

iii. A summary of all actions undertaken pursuant to the control strategy, and

iv. A description of actions to be taken in the following year.

e. Best Management Practices Program

The Discharger shall submit an updated Best Management Practices (BMP) program to the Executive Officer for approval by February 28 of each year. The purpose of the BMP program is to prevent the accidental release of toxic or hazardous substances into the environment and to mitigate and minimize the effects of such a release using equipment and techniques which are available and practical for such use. The BMP program shall be consistent with the guidance provided in the USEPA *Guidance Manual for Developing Best Management Practices (BMP)* (October 1993, EPA 833-B-93-004).

4. Storm Water Pollution Prevention Plan and Annual Report – Discharge Point 002

The Discharger shall submit an updated Storm Water Pollution Prevention Plan (SWPPP) acceptable to the Executive Officer by October 1 each year. If the Discharger determines that it does not need to update its SWPPP, it shall submit a letter to the Executive Officer that indicates no revisions are necessary and the last year an update was submitted. The Discharger shall implement the SWPPP, and the SWPPP shall comply with the requirements contained in the attached Federal Standard Provisions (Attachment D).

The SWPPP has two purposes: 1) to identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of storm water discharges, and 2) to

identify and implement site-specific BMPs to reduce or prevent pollutants associated with industrial activities in storm water discharges. The SWPPP shall include:

(1) Identification of the specific individual or team responsible for developing the SWPPP and assisting in SWPPP implementation;
(2) A site map that identifies the storm water conveyance system and discharge point. The site map shall also outline all impervious areas of the Plant and indicate where materials are directly exposed to precipitation;
(3) A list of significant materials handled and stored at the site, and a description of the locations where these materials are stored, received, shipped, and handled, as well as the typical quantities;
(4) A description of industrial activities and potential pollutants that could be discharged in storm water discharges;
(5) An assessment of the potential pollutant sources to discern which potential pollutants are likely to be present in storm water discharges;
(6) A description of the specific storm water BMPs implemented at the Plant; and
(7) A reference to or incorporation of any other Plant plans that contain storm control measures.

The SWPPP shall be retained on site and made available upon request of the Regional Water Board.

The Discharger shall conduct one annual comprehensive site evaluation during each reporting period (July 1 – June 30), which shall include a review of all monitoring records, a visual inspection of all potential pollutant sources for evidence of these pollutants entering the drainage system, and a review and evaluation of all BMPs employed. The Discharger shall submit an Annual Storm Water Report by July 1 of each year covering data for the previous wet weather season.

The Annual Storm Water Report shall, at a minimum, include (a) a tabulated summary of all sampling results and a summary of visual observations taken during the inspections; (b) a comprehensive discussion of the compliance record and any corrective actions taken or planned to ensure compliance with waste discharge requirements; (c) a comprehensive discussion of source identification and control programs for constituents that do not have effluent limitations; and (d) a summary of changes made in BMPs implemented during the previous year and changes planned for the following year.

5. Action Plan for Copper

The Discharger shall implement source control and pollution prevention for copper in accordance with the following tasks and time schedule.

Table 8. Copper Action Plan

Task	Compliance Date
1. Review Potential Copper Sources The Discharger shall submit an inventory of all potential copper sources to the discharge.	Within 90 days of Order adoption
2. Implement Copper Control Program The Discharger shall submit a plan for and begin implementation of a program to reduce copper discharges identified in Task 1.	February 28, 2011, with 2010 Annual Pollution Prevention Report
3. Implement Additional Measures If the three-year rolling mean copper concentration of the receiving water exceeds 2.8 µg/L, evaluate the effluent copper concentration trend, and if it is increasing, develop and implement additional measures to control copper discharges.	Within 90 days of exceedance
4. Report Status of Copper Control Program Submit a report to the Regional Water Board documenting implementation of the copper control program.	Annually by February 28th with the Annual Pollution Prevention Report required by Section VI.C.3.b, above

6. Action Plan for Cyanide

The Discharger shall implement monitoring and surveillance, source control, and pollution prevention for cyanide in accordance with the following tasks and time schedule.

Table 9. Cyanide Action Plan

Task	Compliance Date
1. Review Potential Cyanide Sources The Discharger shall submit an inventory of potential sources of cyanide to the discharge. If no sources of cyanide are identified, Tasks 2 and 3 are not required.	Within 90 days of Order adoption
2. Implement Cyanide Control Program The Discharger shall submit a plan for and begin implementation of a program to minimize cyanide discharges. At a minimum, the plan shall consist of the following elements: a. Inspect each potential source to assess the need to include that contributing source in the control program. b. Prepare an emergency monitoring and response plan to be implemented if a significant cyanide discharge occurs. c. If ambient monitoring shows cyanide concentrations of 1.0 µg/L or higher in the main body of San Francisco Bay, undertake actions to identify and abate cyanide sources responsible for the elevated ambient concentrations.	February 28, 2011, with 2010 Annual Pollution Prevention Report
3. Report Status of Cyanide Control Program Submit a report to the Regional Water Board documenting implementation of the cyanide control program.	Annually by February 28th with the Annual Pollution Prevention Report

7. Best Technology Study

The Discharger shall implement the following tasks and time schedule to complete a study that will allow the Regional Water Board to use best professional judgment (BPJ) to review and update, if necessary, effluent limitations based on best practicable control technology currently available (BPT), best conventional pollutant control technology (BCT), and best available control technology economically achievable (BAT) for the discharge.

Table 10. Best Technology Study

Task	Compliance Date
1. Prepare Study Plan. Prepare and submit to the Regional Water Board a study plan acceptable to the Executive Officer that sets forth how the Discharger shall complete the following tasks: a. Describe the industrial and wastewater treatment processes undertaken at the Plant. b. Identify and quantify Plant flows, including wastewater flows. c. Identify production metrics proportional to pollutant discharges and quantify production levels for existing operations. d. Review established effluent limitations guidelines (ELGs) for facilities with similar wastewaters. e. Review treatment technologies employed for similar wastewaters and their performance. f. Review existing and historic Plant performance to determine the best performance achieved. g. Identify appropriate indicator parameters representative of treatment performance. h. Propose BPT, BCT, and BAT limits in accordance with 40 CFR 125.3(c). i. Address the factors listed in 40 CFR 125.3(d) with sufficient detail that the Regional Water Board may rely on the analysis to establish technology-based limits based on BPJ.	March 1, 2013
2. Implement Study. Commence implementation of the Study Plan identified in Task 1.	May 1, 2013
3. Report Study Results. Submit to the Regional Water Board a report acceptable to the Executive Officer that describes the analysis completed for Task 2 and its conclusions.	May 1, 2014

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in Section IV of this Order will be determined as specified below:

A. General

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in Attachment A to the MRP (Attachment E) and Fact Sheet Section VI. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of

the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

B. Multiple Sample Data

When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ), also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

$$\textbf{Arithmetic mean} = \mu = \Sigma x / n$$

where:

Σx is the sum of the measured ambient water concentrations, and
n is the number of samples.

Average Monthly Effluent Limitation (AMEL) is the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL) is the highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Bioaccumulative pollutants are those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (*CV*) is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in this Order), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ) are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effluent Concentration Allowance (ECA) is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in USEPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of San Francisco Bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration is the estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters include, but are not limited to, the Sacramento-San Joaquin Delta, as defined in California Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters are all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation is the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation is the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Maximum Daily Effluent Limitation (MDEL) means the highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median is the middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the $n/2$ and $n/2+1$).

Method Detection Limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML) is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND) are those sample results less than the laboratory's MDL.

Ocean Waters are the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP) means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to California Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in California Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

Reporting Level (RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from SIP Appendix 4 in accordance with SIP section 2.4.2 or established in accordance with SIP section 2.4.3. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors

may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Satellite Collection System is the portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the Plant that a sanitary sewer system is tributary to.

Source of Drinking Water is any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

Standard Deviation (σ) is a measure of variability that is calculated as follows:

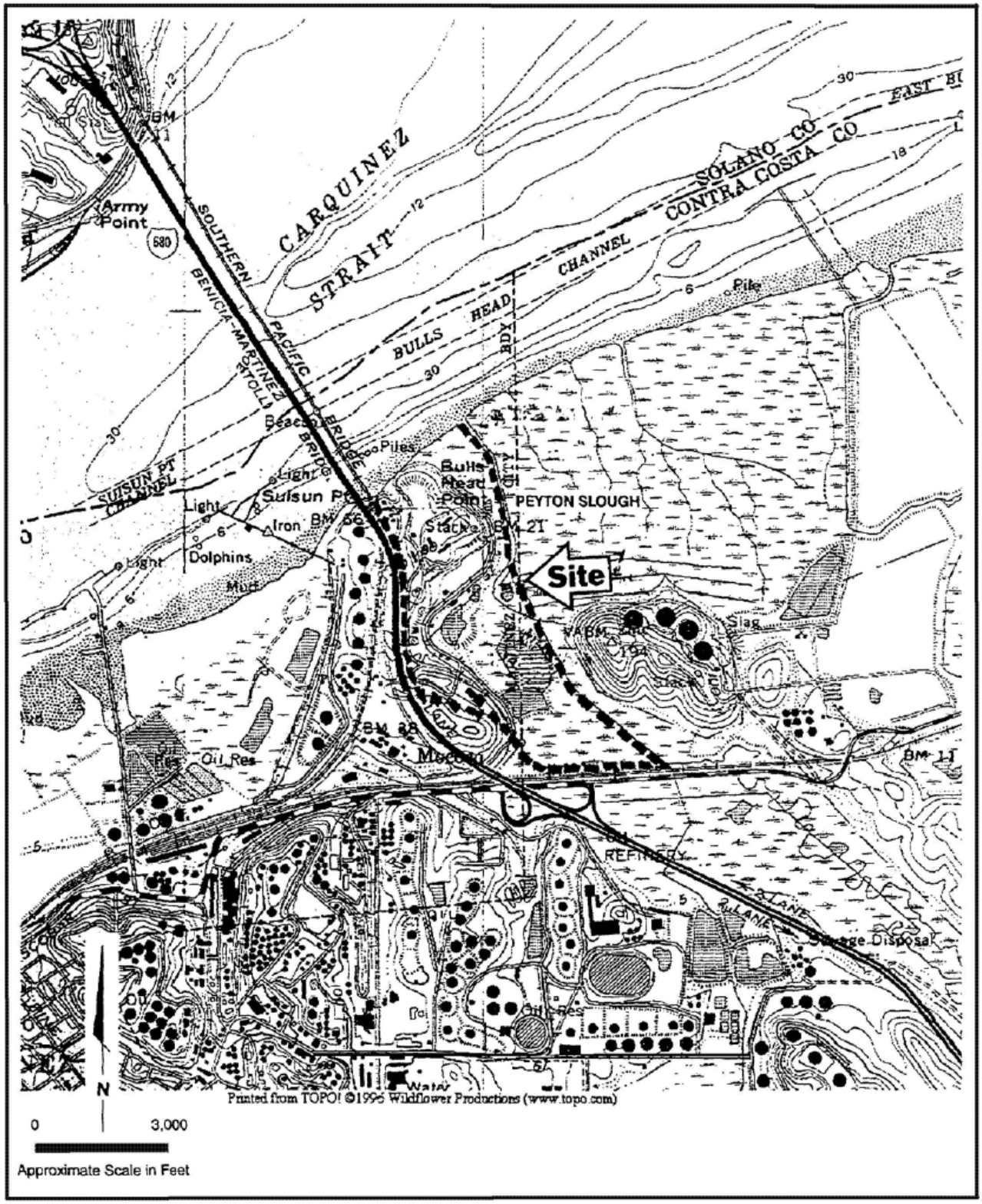
$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

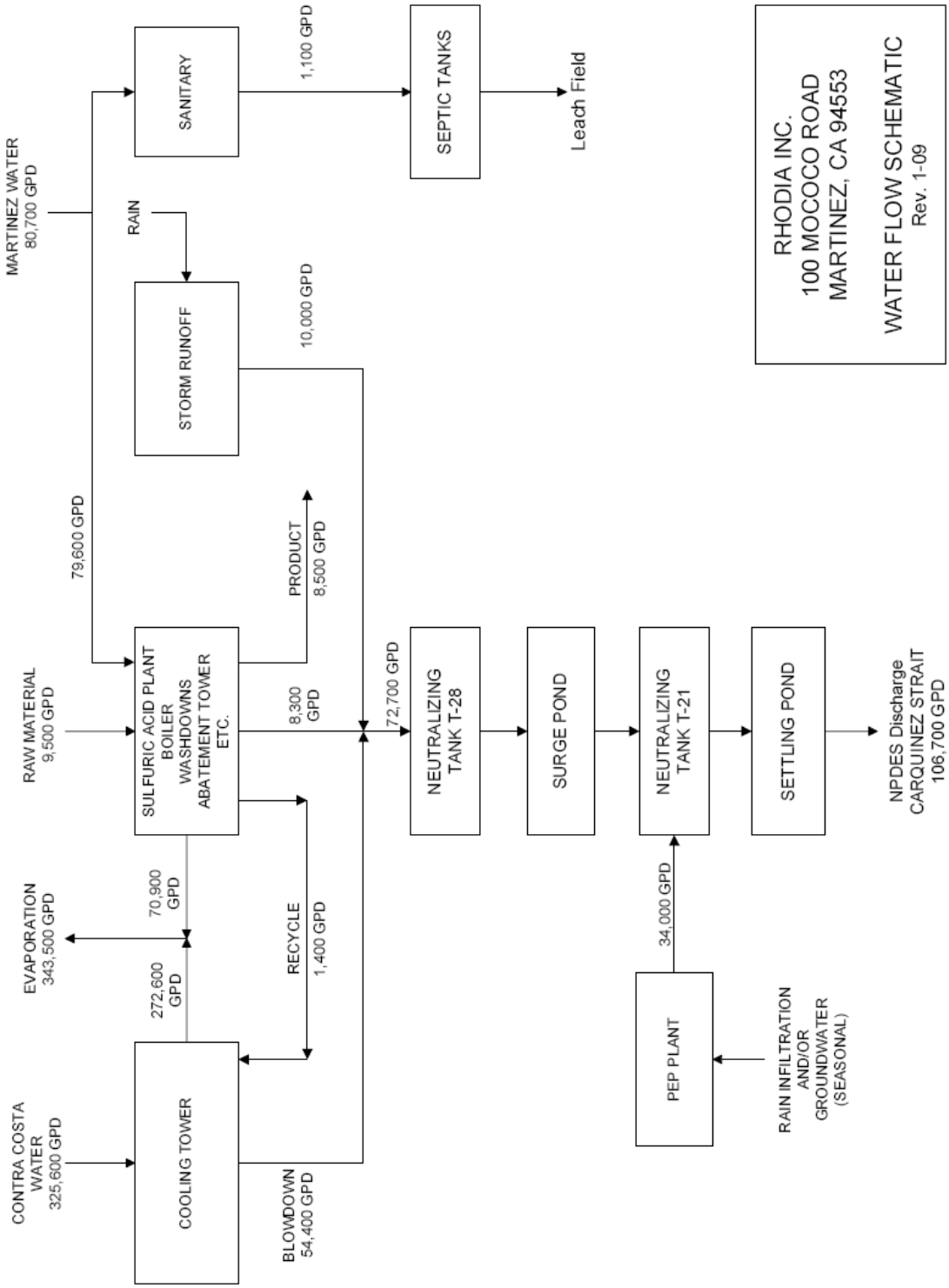
x is the observed value;
μ is the arithmetic mean of the observed values; and
n is the number of samples.

Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of Plant operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

ATTACHMENT B – FACILITY MAP



ATTACHMENT C – PROCESS FLOW DIAGRAM



ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. § 122.41(a).)

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order (40 C.F.R. § 122.41(e)).

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 C.F.R. § 122.41(i); Wat. Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 C.F.R. § 122.41(i)(1));

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 C.F.R. § 122.41(i)(2));

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 C.F.R. § 122.41(i)(3)); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 C.F.R. § 122.41(i)(4).)

G. Bypass

1. Definitions

   a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)

   b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));

   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of

equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)

4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

5. Notice

a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)

b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).).

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):

a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));

b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));

c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of this Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. § 122.41(l)(3); § 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)

B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));

2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));

3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));

4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));

5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and

6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)

2. All permit applications shall be signed by a responsible corporate office. For purposes of this section, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).).

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard

Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 C.F.R. § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.22(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in

the DMR or sludge reporting form specified by the Regional Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):

   a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

   b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to

effluent limitations in this Order nor to notification requirements under section 122.42(a)(1) (see Additional Provisions-Notification Levels VII.A.1). (40 C.F.R. § 122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R.§ 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Regional Water Board is authorized to enforce the terms of this Order under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Regional Water Board as soon as they know or have reason to believe (40 C.F.R. § 122.42(a)):

That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(1)):

a. 100 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(1)(i));

b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(1)(ii));

c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or

d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)

That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(2)):

a. 500 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(2)(i));

b. 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));

c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or

d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Table of Contents

I. General Monitoring Provisions E-2
II. Monitoring Locations E-2
III. Influent Monitoring Requirements E-3
IV. Effluent Monitoring Requirements E-3
V. Whole Effluent Toxicity Testing Requirements E-5
VI. Land Discharge Monitoring Requirements E-8
VII. Reclamation Monitoring Requirements E-8
VIII. Receiving Water Monitoring Requirements E-8
IX. Other Monitoring Requirements E-9
X. Reporting Requirements E-9
A. General Monitoring and Reporting Requirements E-9
B. Self Monitoring Reports (SMRs) E-10
C. Discharge Monitoring Reports (DMRs) E-12
D. Other Reports E-12

Tables

Table E-1. Monitoring Station Locations E-2
Table E-2. Effluent Monitoring – Monitoring Locations E-001 ..... E-3
Table E-3. Effluent Monitoring – Monitoring Location E-002 ..... E-4
Table E-4. Receiving Water Monitoring – Monitoring Location RSW-001 ..... E-8
Table E-5. Monitoring Periods and Reporting Schedule E-10

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

National Pollutant Discharge Elimination System (NPDES) regulations at 40 CFR 122.48 require that all NPDES permits specify monitoring and reporting requirements. California Water Code (CWC) sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement the federal and State regulations.

I. GENERAL MONITORING PROVISIONS

A. The Discharger shall comply with this MRP and with all of the Regional Standard Provisions (Attachment G). The MRP may be amended by the Executive Officer pursuant to U.S. Environmental Protection Agency (USEPA) regulations at 40 CFR 122.62, 122.63, and 124.5.

B. The Discharger shall conduct all analyses using current USEPA methods, methods that have been approved by the USEPA Regional Administrator pursuant to 40 CFR 136.4 and 40 CFR 136.5, or equivalent methods that are commercially and reasonably available and that provide quantification of sampling parameters and constituents sufficient to evaluate compliance with applicable effluent limits and to perform reasonable potential analyses. Equivalent methods must be more sensitive than those specified in 40 CFR 136, must be specified in the permit, and must be approved for use by the Executive Officer, following consultation with the State Water Quality Control Board (State Water Board) Quality Assurance Program.

C. Sampling and analysis of additional constituents is required pursuant to the Regional Standard Provisions (Attachment G).

D. Laboratories analyzing monitoring samples shall be certified by the Department of Public Health, in accordance with Water Code section 13176 and shall include quality assurance/quality control data with their reports.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order.

Table E-1. Monitoring Station Locations

Type of Sampling Location	Monitoring Location Name	Monitoring Location Description
Effluent	E-001	At a point after full treatment and prior to contact with Carquinez Strait, where a representative sample of treated wastewater can be obtained.
Effluent	E-002	At a point between the point of discharge to Peyton Slough, and prior to contact with the receiving water, where a representative sample of storm water can be obtained.
Receiving Water	RSW-001	At a point in Carquinez Strait approximately 730 feet from the shoreline, above the deep water diffuser. Formerly C-001.

III. INFLUENT MONITORING REQUIREMENTS

Not Applicable.

IV. EFFLUENT MONITORING REQUIREMENTS

A. The Discharger shall monitor treated effluent from the Plant at E-001 as follows.

Table E-2. Effluent Monitoring – Monitoring Locations E-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow Rate (1)	MGD	Cont	Cont/D	(2)
pH (3)	s.u.	Cont	Cont/D	(2)
COD	mg/L	C-24	1/Month	(2)
	kg/day	Calculate	1/Month	(2)
TSS	mg/L	C-24	1/every 2 weeks	(2)
	kg/day	Calculate	1/every 2 weeks	(2)
Oil and Grease(4),(5)	mg/L	G	1/Month	(2)
	kg/day	Calculate	1/Month	(2)
Settleable Solids	mL/L-hr	G	1/Month	(2)
Temperature	ºC	Cont	Cont/D	(2)
Turbidity	NTU	C-24	1/Quarter	(2)
Dissolved Oxygen	mg/L	G	1/Month	(2)
	% Saturation	G	1/Month	(2)
Total Ammonia	mg/L as N	G	1/Quarter	(2)
Acute Toxicity (6)	% survival	C-24	1/Month	(2)
Chronic Toxicity (7)	TUc	C-24	2/Year(8)	(2)
Arsenic	µg/L	C-24	1/Month	(2)
Cadmium	µg/L	C-24	1/Month	(2)
Copper	µg/L	C-24	1/Month	(2)
Lead	µg/L	C-24	1/Month	(2)
Selenium	µg/L	C-24	1/Month	(2)
Silver	µg/L	C-24	1/Month	(2)
Cyanide	µg/L	C-24	1/Month	(2)
Bis(2-ethylhexyl)phthalate	µg/L	C-24	1/Month	(2)
4,4-DDD	µg/L	C-24	1/Month	(2)
Dioxin-TEQ	µg/L	C-24	2/Year	(2)
Remaining Priority Pollutants(9)	µg/L	C-24	2/Year	(2)

Footnotes to Table E-2:

Units:

MG	=	million gallons
MGD	=	million gallons per day
s.u.	=	standard units

mg/L	=	milligrams per liter
kg/day	=	kilograms per day
mL/L-hr	=	milliliters per liter per hour
^{o}C	=	degrees Celsius
NTU	=	Nephelometric turbidity units
TUc	=	Chronic toxicity units
µg/L	=	micrograms per liter
Cont	=	measured continuously
Cont/D	=	measured continuously, and recorded and reported daily
C-24	=	24-hour composite
G	=	Grab

(1) Flow shall be monitored continuously and the following shall be reported in monthly Self Monitoring Report (SMRs)s:
a. Daily average flow rate (MGD)
b. Daily total flow volume (MG)
c. Monthly average flow rate (MGD)
d. Monthly total flow volume (MG), and
e. Average daily maximum and average daily minimum flow rates (MGD) for the month.

(2) Pollutants and pollutant parameters shall be analyzed using the analytical methods described in 40 CFR 136. For priority pollutants, the methods must meet the lowest MLs specified in SIP Attachment 4. Where no methods are specified for a given pollutant, the methods must be approved by this Regional Water Board or the State Water Board.

(3) If pH is monitored continuously, the minimum and maximum pH values for each day shall be reported in monthly SMRs.

(4) Grab samples shall be collected coincident with samples collected for the analysis of regulated parameters.

(5) Each oil and grease sampling event shall consist of a composite sample composed of three grab samples taken at equal intervals during the sampling day, with each grab sample being collected in a glass container. The grab samples shall be mixed in proportion to the instantaneous flow rates occurring at the time of each grab sample, within an accuracy of plus or minus 5%. Each glass container used for sample collection or mixing shall be thoroughly rinsed with solvent rinsings as soon as possible after use, and the solvent rinsings shall be added to the composite sample for extraction and analysis.

(6) Acute bioassay tests shall be performed in accordance with Section V.A of this MRP.

(7) Critical Life Stage Toxicity Tests shall be performed and reported in accordance with the Chronic Toxicity Requirements specified in Section V.B of this MRP.

(8) Twice yearly monitoring shall occur once during the wet season (November through April) and once during the dry season (May through October).

(9) Monitoring for the priority pollutants identified (40 CFR 131.38) is addressed in the Regional Standard Provisions (Attachment G).

B. The Discharger shall monitor storm water effluent from the Plant at E-002 as follows.

Table E-3. Effluent Monitoring – Monitoring Location E-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
TSS	mg/L	G	Each Occurrence (1)	(2)
Conductivity	µmhos/cm	G	Each Occurrence (1)	(2)
pH	s.u	G	Each Occurrence (1)	(2)
Oil and Grease	mg/L	G	Each Occurrence (1)	(2)
CTR Metals (3)	µg/L	G	1/Year	(2)
Remaining Priority Pollutants (4)	µg/L	G	1/5 Years	(2)
Ammonia	mg/L as N	G	Each Occurrence (1)	(2)
Visible Oil	---	Observation	Each Occurrence (1)	(2)
Visible Color	---	Observation	Each Occurrence (1)	(2)

Footnotes to Table E-3:

Units:

µg/L	=	micrograms per liter
mg/L	=	milligrams per liter
µmhos/cm	=	micromhos per centimeter
s.u.	=	standard units
Cont	=	measured continuously

Cont/D	=	measured continuously, and recorded and reported daily
C-24	=	24-hour composite
G	=	Grab

(1) "Each occurrence" shall refer to each significant storm water discharge, defined as a continuous discharge of storm water for a minimum of one hour, or an intermittent discharge of storm water for a minimum of three hours, in a 12-hour period. When monitoring is required for each occurrence, it is required for at least one storm event per month.

(2) Pollutants and pollutant parameters shall be analyzed using the analytical methods described in 40 CFR 136. For priority pollutants, the methods shall meet the lowest MLs specified in SIP Attachment 4. Where no methods are specified for a given pollutant, the methods shall be approved by this Regional Water Board or the State Water Board.

(3) Those metals listed as CTR numbers 1 – 13, which are antimony, arsenic, beryllium, cadmium, chromium (III), chromium (VI), copper, lead, mercury, nickel, selenium, silver, thallium, and zinc.

(4) Sampling for all priority pollutants in the State Implementation Plan (SIP) is addressed in the Regional Standard Provisions (Attachment G).

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The Discharger shall monitor acute and chronic toxicity at the compliance location and frequencies specified in Table E-2 as follows.

A. Whole Effluent Acute Toxicity

1. Compliance with the acute toxicity effluent limitations of this Order shall be evaluated by measuring survival of test organisms exposed to 96-hour continuous flow-through bioassays.

2. Test organisms shall be fathead minnow and rainbow trout in parallel unless specified otherwise in writing by the Executive Officer.

3. All bioassays shall be performed according to the most up-to-date protocols in 40 CFR 136, currently in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms,* 5th Edition.

4. If specific identifiable substances in the discharge can be demonstrated by the Discharger as being rapidly rendered harmless upon discharge to the receiving water, compliance with the acute toxicity limit may be determined after the test samples are adjusted to remove the influence of those substances. Written approval from the Executive Officer must be obtained to authorize such an adjustment.

5. Effluent used for fish bioassays shall be dechlorinated prior to testing. Monitoring of the bioassay water shall include, on a daily basis, the following parameters: pH, dissolved oxygen, ammonia (if toxicity is observed), temperature, hardness, and alkalinity. These results shall be recorded and maintained with all other analytical documents.

   If final or intermediate results of an acute bioassay test indicate a violation or threatened violation (i.e., the percentage of surviving test organisms of any single acute bioassay test is less than 70 percent), or if the control fish survival rate is less than 90 percent, a new test shall be initiated and the Discharger shall investigate the cause of the mortalities and report its findings in the next self-monitoring report (SMR). Bioassay tests shall continue back-to-back until a bioassay test indicates no violation or threatened violation.

B. Whole Effluent Chronic Toxicity

1. Chronic Toxicity Monitoring Requirements

   a. *Sampling*. The Discharger shall collect 24-hour composite samples of the effluent at the compliance point specified in Table E-3 for critical life stage toxicity testing. For toxicity tests requiring renewals, 24-hour composite samples collected on consecutive days are required.

   b. *Test Species*. The test species shall be *Mytilus galloprovinciales* (mussel). If *Mytilus galloprovinciales* is unavailable for a period greater than two months, the test species shall be *Macrocystis pyrifera* (kelp). The Discharger shall conduct a five species screening chronic toxicity test as described in Appendix E-1 subsequent to any significant change in the nature of the effluent and prior to permit reissuance. The Executive Officer may change the test species if data suggest that another test species is more sensitive to the discharge.

   c. *Methodology*. Sample collection, handling, and preservation shall be in accordance with USEPA protocols. In addition, bioassays shall be conducted in compliance with the most recently promulgated test methods, as shown in Appendix E-1. These are *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms,* currently third edition (EPA-821-R-02-014), and *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms,* currently fourth Edition (EPA-821-R-02-013), with exceptions granted by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP).

   d. *Dilution Series.* The Discharger shall conduct tests at 100%, 50%, 25%, 10%, 5%, and 2.5%. The "%" represents percent effluent as discharged.

2. Chronic Toxicity Reporting Requirements

   a. *Routine Reporting*. Toxicity test results for the current reporting period shall include, at a minimum, for each test:

      (1) Sample dates

      (2) Test initiation date

      (3) Test species

      (4) End point values for each dilution (e.g., number of young, growth rate, percent survival)

      (5) No Observed Effect Concentration (NOEC) values in terms of "percent effluent"

      (6) Inhibition Concentration (IC) values at IC_{15}, IC_{25}, IC_{40}, and IC_{50} (or Effective Concentration (EC) values at EC_{15}, EC_{25} ... etc.) in terms of "percent effluent"

      (7) Chronic Toxicity Units (TUc) values (100/NOEC, $100/IC_{25}$, or $100/EC_{25}$)

(8) Mean percent mortality (±s.d.) after 96 hours in 100% effluent (if applicable)

(9) NOEC and Lowest Observed Effect Concentration (LOEC) values for reference toxicant tests

(10) IC_{50} or EC_{50} values for reference toxicant tests

(11) Available water quality measurements for each test (pH, dissolved oxygen [DO], temperature, conductivity, hardness, salinity, ammonia)

b. *Compliance Summary*. The results of the chronic toxicity testing shall be provided in Self-Monitoring Reports (SMRs) and shall include a summary table of chronic toxicity data from at least eleven of the most recent samples. The information in the table shall include the items listed above under 2.a, specifically item numbers (1), (3), (5), (6) (IC_{25} or EC_{25}), (7), and (8).

3. Chronic Toxicity Reduction Evaluation (TRE)

a. To be ready to respond to toxicity events, the Discharger shall prepare a generic TRE work plan within 90 days of the effective date of this Order. The Discharger shall review and update the work plan as necessary to remain current and applicable to the discharge and discharge facilities.

b. Within 30 days of exceeding a trigger for accelerated monitoring, the Discharger shall submit to the Regional Water Board a specific TRE work plan, which shall be the generic work plan revised as appropriate for this toxicity event after consideration of available discharge data.

c. Within 30 days of the date of completion of accelerated monitoring tests observed to exceed either trigger, the Discharger shall initiate a TRE in accordance with a TRE work plan that addresses any and all comments from the Executive Officer.

d. The TRE shall be specific to the discharge and be prepared in accordance with current technical guidance and reference materials, including USEPA guidance materials. The TRE shall be conducted as a tiered evaluation process, such as summarized below:

(1) Tier 1 consists of basic data collection (routine and accelerated monitoring).

(2) Tier 2 consists of evaluation of optimization of the treatment process, including operation practices and in-plant process chemicals.

(3) Tier 3 consists of a toxicity identification evaluation (TIE).

(4) Tier 4 consists of evaluation of options for additional effluent treatment processes.

(5) Tier 5 consists of evaluation of options for modifications of in-plant treatment processes.

(6) Tier 6 consists of implementation of selected toxicity control measures, and follow-up monitoring and confirmation of implementation success.

e. The TRE may be ended at any stage if monitoring finds there is no longer consistent toxicity (complying with requirements of Section IV.A.4 of this Order).

f. The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity. All reasonable efforts using currently available TIE methodologies shall be employed.

g. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with chronic toxicity evaluation parameters.

h. Many recommended TRE elements parallel required or recommended efforts of source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements or recommended efforts of such programs may be acceptable to comply with TRE requirements.

i. The Regional Water Board recognizes that chronic toxicity may be episodic and identification of causes of and reduction of sources of chronic toxicity may not be successful in all cases. Consideration of enforcement action by the Regional Water Board will be based in part on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

Not Applicable.

VII. RECLAMATION MONITORING REQUIREMENTS

Not Applicable.

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. The Discharger shall continue to participate in the Regional Monitoring Program for Trace Substances (RMP), which involves collection of data on pollutants and toxicity in water, sediment, and biota of the Estuary. The Discharger's participation and support of the RMP is used in consideration of the level of receiving water monitoring required by this Order.

B. The Discharger shall conduct receiving water monitoring as described below.

Table E-4. Receiving Water Monitoring – Monitoring Location RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	s.u.	G (1)	1/Year	(2)
Temperature	°C	G (1)	1/Year	(2)
Dissolved Oxygen	mg/L	G (1)	1/Year	(2)
	% Saturation	G (1)	1/Year	(2)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Sulfides (3)	mg/L	G (1)	1/Year	(2)
Total Ammonia	mg/L as N	G (1)	1/Year	(2)
Unionized Ammonia	mg/L as N	Calculation	1/Year	(2)
Standard Observations	---	Observation	1/Year	---

Footnotes to Table E-4:

Units:

s.u. = standard units
^{o}C = degrees Celsius
mg/L = milligrams per liter

(1) Grab samples shall be collected within 1 foot below the surface of the receiving waterbody.
(2) Pollutants and pollutant parameters shall be analyzed using the analytical methods described in 40 CFR 136. For priority pollutants, the methods must meet the lowest MLs specified in SIP Attachment 4. Where no methods are specified for a given pollutant, the methods must be approved by this Regional Water Board or the State Water Board.
(3) Analysis for sulfides shall occur when dissolved oxygen monitoring results are less than 2.0 mg/L.

IX. OTHER MONITORING REQUIREMENTS

A. Rainfall

The Discharger shall record daily the occurrence and extent of precipitation in inches, according to the nearest official recording National Weather Service rainfall station, or other station acceptable to the Executive Officer.

B. Wastewater Treatment Process Solids

1. For each treatment unit process that involves solids removal from the wastewater stream, the following shall be recorded:

   a. Total volume and/or mass of solids removed from each unit (e.g., grit, skimmings, undigested sludge) for each calendar month; and

   b. Final disposition of the solids (e.g., landfill or other subsequent treatment unit).

2. For final dewatered sludge from the Plant as a whole, the following shall be recorded:

   a. Total volume and/or mass of dewatered sludge, for each calendar month;

   b. Solids content of the dewatered sludge; and

   c. Final disposition of dewatered sludge (point of disposal location and disposal method).

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachments D and G) related to monitoring, reporting, and recordkeeping.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this Order, the State or Regional Water Board may notify the Discharger to electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event that there will be service interruption for electronic submittal.

2. The Discharger shall submit monthly and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order for each calendar month. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR. Monthly SMRs shall be due on the 30th day following the end of each calendar month, covering samples collected during that calendar month; Annual Reports shall be due on February 1 following each calendar year.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-5. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period
Continuous	Day after permit effective date	All
Hourly	Day after permit effective date	Hourly
Daily	Day after permit effective date	Midnight through 11:59 PM or any 24-hour period that reasonably represents a calendar day for purposes of sampling.
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1st day of calendar month through last day of calendar month
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31
Annually	January 1 following (or on) permit effective date	January 1 through December 31
Per Discharge Event	Anytime during the discharge event or as soon as possible after aware of the event	At a time when sampling can characterize the discharge event

4. The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL) as determined by the procedure in 40 CFR 136.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

   For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy ($\pm$ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

c. Sample results less than the laboratory's MDL shall be reported as "Not Detected" or ND.

d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.

5. The Discharger shall submit SMRs in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the Plant is operating in compliance with interim and/or final effluent limitations in this Order. The Discharger is not required to duplicate the submittal of data that are entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

   b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs, discuss corrective actions taken or planned, and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

   c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

Executive Officer
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612
ATTN: NPDES Wastewater Division

C. Discharge Monitoring Reports (DMRs)

1. As described in Section XI.B.1, above, at any time during the term of this Order, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of DMRs. Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.

2. DMRs must be signed and certified as required by the Standard Provisions (Attachment D). The Discharge shall submit the original DMR and one copy of the DMR to one of the addresses listed below:

Standard Mail	FedEx/UPS/Other Private Carriers
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15th Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of EPA Form 3320-1.

D. Other Reports

The Discharger shall report the results of any special studies, monitoring, and reporting required by Section VI.C.2 (Special Studies, Technical Reports, and Additional Monitoring Requirements) of this Order with the first monthly SMR following the respective due date. The Discharger shall include a report of progress toward meeting compliance schedules established by section VI.C.2 of this Order in the Annual Report.

The Discharger shall retain and submit (when required by the Executive Officer) the following information concerning the monitoring program for organic and metallic pollutants.

a. Description of sample stations, times, and procedures;

b. Description of sample containers, storage, and holding time prior to analysis;

c. Quality assurance procedures, together with any test results for replicate samples, sample blanks, and any quality assurance tests, and the recovery percentages for the internal surrogate standard.

The Discharger shall submit in the monthly SMR the metallic and organic test results together with the detection limits (including unidentified peaks). All unidentified (non-priority pollutant) peaks detected by USEPA method 624 or method 625 shall be identified and quantified. Hydrocarbons detected at <10 µg/L based on the nearest internal standard may be appropriately grouped and identified together as aliphatic, aromatic, and unsaturated hydrocarbons. All other hydrocarbons detected at > 10 µg/L based on the nearest internal standard shall be identified and quantified.

APPENDIX E-1
CHRONIC TOXICITY
DEFINITION OF TERMS AND SCREENING PHASE REQUIREMENTS

I. Definition of Terms

A. No observed effect level (NOEL) for compliance determination is equal to IC_{25} or EC_{25}. If the IC_{25} or EC_{25} cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.

B. Effective concentration (EC) is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Karber. EC_{25} is the concentration of toxicant (in percent effluent) that causes a response in 25 percent of the test organisms.

C. Inhibition concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a nonlethal, nonquantal biological measurement, such as growth. For example, an IC_{25} is the estimated concentration of toxicant that would cause a 25 percent reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as USEPA's Bootstrap Procedure.

D. No observed effect concentration (NOEC) is the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. It is determined using hypothesis testing.

II. Chronic Toxicity Screening Phase Requirements

A. The Discharger shall perform screening phase monitoring:

1. Subsequent to any significant change in the nature of the effluent discharged through changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to source control efforts, or

2. Prior to permit reissuance. Screening phase monitoring data shall be included in the NPDES permit application for reissuance. The information shall be as recent as possible, but may be based on screening phase monitoring conducted within 5 years before the permit expiration date.

B. Design of the screening phase shall, at a minimum, consist of the following elements:

1. Use of test species specified in Appendix E-2, attached, and use of the protocols referenced in those tables.

2. Two stages:

a. Stage 1 shall consist of a minimum of one battery of tests conducted concurrently. Selection of the type of test species and minimum number of tests shall be based on Appendix E-2 (attached).

b. Stage 2 shall consist of a minimum of two test batteries conducted at a monthly frequency using the three most sensitive species based on the Stage 1 test results.

3. Appropriate controls.

4. Concurrent reference toxicant tests.

5. Dilution series of 100%, 50%, 25%, 10%, 5%, and 2.5%, where "%" is percent effluent as discharged.

C. The Discharger shall submit a screening phase proposal acceptable to the Executive Officer. The proposal shall address each of the elements listed above. If within 30 days, the Executive Officer does not comment, the Discharge shall commence with screening phase monitoring.

APPENDIX E-2
SUMMARY OF TOXICITY TEST SPECIES REQUIREMENTS

Critical Life Stage Toxicity Tests for Estuarine Waters

Species	(Scientific Name)	Effect	Test Duration	Reference
Alga	*(Skeletonema costatum)* *(Thalassiosira pseudonana)*	Growth rate	4 days	1
Red alga	*(Champia parvula)*	Number of cystocarps	7–9 days	3
Giant kelp	*(Macrocystis pyrifera)*	Percent germination; germ tube length	48 hours	2
Abalone	*(Haliotis rufescens)*	Abnormal shell development	48 hours	2
Oyster Mussel	*(Crassostrea gigas)* *(Mytilus edulis)*	Abnormal shell development; percent survival	48 hours	2
Echinoderms - Urchins Sand dollar	*(Strongylocentrotus purpuratus, S. franciscanus)* *(Dendraster excentricus)*	Percent fertilization	1 hour	2
Shrimp	*(Mysidopsis bahia)*	Percent survival; growth	7 days	3
Shrimp	*(Holmesimysis costata)*	Percent survival; growth	7 days	2
Topsmelt	*(Atherinops affinis)*	Percent survival; growth	7 days	2
Silversides	*(Menidia beryllina)*	Larval growth rate; percent survival	7 days	3

Toxicity Test References:

1. American Society for Testing Materials (ASTM). 1990. Standard Guide for Conducting Static 96-Hour Toxicity Tests with Microalgae. Procedure E 1218-90. ASTM, Philadelphia, PA.
2. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA/600/R-95/136. August 1995.
3. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-90/003. July 1994.

Critical Life Stage Toxicity Tests for Fresh Waters

Species	(Scientific Name)	Effect	Test Duration	Reference
Fathead minnow	*(Pimephales promelas)*	Survival; growth rate	7 days	4
Water flea	*(Ceriodaphnia dubia)*	Survival; number of young	7 days	4
Alga	*(Selenastrum capricornutum)*	Cell division rate	4 days	4

Toxicity Test Reference:

4. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, third edition. EPA/600/4-91/002. July 1994.

Toxicity Test Requirements for Stage One Screening Phase

Requirements	Receiving Water Characteristics		
	Discharges to Coast	Discharges to San Francisco Bay (2)	
	Ocean	Marine/Estuarine	Freshwater
Taxonomic diversity	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish
Number of tests of each salinity type: Freshwater (1) Marine/Estuarine	 0 4	 1 or 2 3 or 4	 3 0
Total number of tests	4	5	3

Footnotes:

(1) The freshwater species may be substituted with marine species if:
- (a) The salinity of the effluent is above 1 part per thousand (ppt) greater than 95 percent of the time, or
- (b) The ionic strength (TDS or conductivity) of the effluent at the test concentration used to determine compliance is documented to be toxic to the test species.

(2)
- (a) Marine refers to receiving water salinities greater than 10 ppt at least 95 percent of the time during a normal water year.
- (b) Freshwater refers to receiving water with salinities less than 1 ppt at least 95 percent of the time during a normal water year.
- (c) Estuarine refers to receiving water salinities that fall between those of marine and freshwater, as described above.

ATTACHMENT F - FACT SHEET

Table of Contents

I. Permit Information F-3
II. Facility Description F-4
  A. Description of Wastewater Treatment F-4
  B. Discharge Points and Receiving Waters F-5
  C. Summary of Existing Requirements and Self-Monitoring Report Data F-5
  D. Compliance Summary F-7
  E. Planned Changes F-7
III. Applicable Plans, Policies, and Regulations F-7
  A. Legal Authorities F-7
  B. California Environmental Quality Act (CEQA) F-8
  C. State and Federal Regulations, Policies, and Plans F-8
  D. Impaired Water Bodies on CWA 303(d) List F-9
IV. Rationale For Effluent Limitations and Discharge Specifications F-10
  A. Discharge Prohibitions F-10
  B. Technology-Based Effluent Limitations F-11
    1. Scope and Authority F-11
    2. Applicable Effluent Limitations F-12
  C. Water Quality-Based Effluent Limitations (WQBELs) F-12
    1. Scope and Authority F-12
    2. Applicable Beneficial Uses and WQC F-13
    3. Determining the Need for WQBELs F-15
    4. WQBEL Calculations F-20
    5. Whole Effluent Acute Toxicity F-30
    6. Whole Effluent Chronic Toxicity F-31
V. Rationale for Receiving Water Limitations F-33
VI. Rationale for Monitoring and Reporting Requirements F-33
  A. Influent Monitoring F-34
  B. Effluent Monitoring F-34
  C. Whole Effluent Toxicity Testing Requirements F-34
  D. Reclamation Monitoring Requirements F-34
  E. Receiving Water Monitoring F-34
  F. Other Monitoring Requirements F-35
VII. Rationale for Provisions F-35
  A. Standard Provisions (Provision VI.A) F-35
  B. Monitoring and Reporting Requirements (Provision VI.B) F-35
  C. Special Provisions (Provision VI.C) F-35
    1. Reopener Provisions F-35
    2. Special Studies and Additional Monitoring Requirements F-35
    3. Best Management Practices and Pollution Minimization Program F-36
    4. Storm Water Pollution Prevention Plan (SWPPP) F-36
    5. Copper Action Plan F-36
    6. Cyanide Action Plan F-37
    7. Best Technology Study F-37

VIII. Public Participation F-37
A. Notification of Interested Parties F-37
B. Written Comments F-37
C. Public Hearing F-38
D. Waste Discharge Requirements Petitions F-38
E. Information and Copying F-38
F. Register of Interested Persons F-38
G. Additional Information F-39

List of Tables

Table F-1. Facility Information F-3
Table F-2. Outfall Locations F-5
Table F-3. Previous Effluent Limitations (Order No. R2-2004-0042) and Monitoring Data for Conventional and Non-Conventional Pollutants at Discharge Point 001 ..... F-6
Table F-4. Previous Effluent Limitations (Order No. R2-2004-0042) and Monitoring Data for Toxic Pollutants at Discharge Point 001 ..... F-6
Table F-5. Monitoring Data at Discharge Point 002 ..... F-7
Table F-6. Compliance with Previous Permit Provisions F-7
Table F-7. Beneficial Uses of Peyton Slough and Carquinez Strait F-8
Table F-8. BPJ-Based BAT and BCT Effluent Limitations F-11
Table F-9. Cu and Ni Translators for Deepwater Dischargers to North San Francisco Bay F-15
Table F-10. Reasonable Potential Analysis Summary F-17
Table F-11. Effluent Limit Calculations F-30

ATTACHMENT F – FACT SHEET

As described in Section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "not applicable" fully apply to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Rhodia Inc., Martinez Plant.

Table F-1. Facility Information

WDID	2 071045001
Discharger	Rhodia Inc.
Name of Facility	Rhodia Inc. Martinez Plant
Facility Address	100 Mococo Road Martinez CA 94553 Contra Costa County
Facility Contact, Title, Phone	Anthony Koo, Environmental Coordinator, 925-313-8221
Authorized Person to Sign and Submit Reports	Darryl Hodge, Plant Manager, 925-313-8221
Mailing Address	Same as Facility Address
Billing Address	Same as Facility Address
Type of Facility	Sulfuric Acid Regeneration Plant
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	No
Reclamation Requirements	No
Facility Permitted Flow	0.8 million gallons per day (MGD)
Facility Design Flow	0.8 MGD (permitted facility design flow) 0.25 MGD (actual maximum monthly average flow) 0.593 MGD (actual maximum daily flow)
Watershed	Suisun Basin
Receiving Water	Peyton Slough, Carquinez Strait
Receiving Water Type	Estuarine

A. Rhodia Inc. owns and operates the Rhodia Inc. Martinez Plant (Plant). The Plant is a sulfuric acid regeneration plant that discharges treated process wastewater to Carquinez Strait and discharges storm water to Peyton Slough. Fact Sheet Section II, Facility Description, further describes the operation of the Plant.

B. The discharge of treated wastewater and storm water from the Plant to Carquinez Strait and Peyton Slough, both waters of the United States, is currently regulated by Order No. R2-2004-0042

(NPDES Permit No. CA0006165), which was adopted on June 16, 2004, became effective on September 1, 2004, and expired on July 31, 2009.

C. The Discharger filed a Report of Waste Discharge and submitted an application for reissuance of its NPDES permit on January 30, 2009. The application was complete and the previous Order was administratively extended.

II. FACILITY DESCRIPTION

A. Description of Wastewater Treatment

The Discharger owns and operates the Martinez Plant (Plant), a sulfuric acid regeneration plant. In 1970, Stauffer Chemical Company built the Plant and in 1988, Rhone-Poulenc Basic Chemicals acquired the Plant. Rhodia Inc. was formed as the result of asset transfer of Rhone-Poulenc and assumed operation of the Plant in 1998. The Plant occupies 110 acres on four separate parcels near Carquinez Strait. The State of California owns 12 acres of vacant land adjacent to the Plant; this land is administered through the State Lands Commission. The Discharger has a 10 to15 foot easement on the State property to route its outfall to Carquinez Strait.

The Discharger uses spent sulfuric acid from petroleum refineries and molten sulfur as raw materials in a regeneration process to manufacture approximately 300,000 tons per year of various grades and strengths of sulfuric acid. The major use for the sulfuric acid generated at the Plant is as an alkylation catalyst in gasoline manufacturing at petroleum refineries.

The first step in the production process is mixing spent sulfuric acid with molten sulfur in a high temperature (1800ºF) industrial furnace, where the sulfuric acid decomposes. Hydrocarbons present in the spent acid combust to form carbon dioxide and water. The resultant sulfur combusts to form sulfur dioxide gas, which is cooled through a waste heat boiler, cleaned by multiple electrostatic precipitators in a quench tower, and dried in a drying tower. The sulfur dioxide gas is then converted to sulfur trioxide gas in a catalytic converter unit. The addition of water to the sulfur trioxide in an absorption tower forms sulfuric acid. Gas containing unconverted sulfur dioxide is released to the atmosphere through a stack that employs an ammonia scrubber/mist eliminator, where the sulfur dioxide reacts to form ammonium bisulfite and ammonium sulfate, which are sold as a fertilizer.

Process wastewaters consist of cooling tower blowdown, acidic process water, boiler blowdown, and various scrubber and washdown waters.

The Plant is located on a former copper smelter site, where large piles of copper smelting slag and cinders in the north and south areas of the site have sunk into the mud, thereby contaminating underlying groundwater. Regional Water Board Order No. R2-2008-0075 manages the contaminated groundwater. The Discharger operates a Process Effluent Purification (PEP) plant six months of the year, treating the contaminated groundwater through sodium hydroxide addition for metals precipitation. The PEP effluent is then directed to the process wastewater treatment system described below, for discharge to Carquinez Strait.

Cooling tower blowdown comprises the largest fraction of wastewater, followed by PEP plant effluent, and then other process wastewaters. Storm water runoff from the Plant area is captured with a Storm Water Engineering Control System and directed to the treatment system.

Process wastewater and storm water from the Plant area are first treated with sodium hydroxide and aluminum sulfate in a 23,000 gallon fiberglass tank (Tank-28) for neutralization and flocculation. Overflow from the tank is contained in a hypalon-lined surge pond from which wastewater flows to a 13,000 gallon neutralization tank (Tank-21) for further pH adjustment. Effluent from the PEP plant enters the treatment process at Tank-21 and the combined wastewater flows to a 630,000 gallon HDPE-lined settling pond for final polishing. Wastewater is discharged from the settling pond via a deep water diffuser to Carquinez Strait at Discharge Point 001 (38º 02' 18" N, 122º 07' 01" W).

Process wastewater effluent is tested daily to ensure that the Discharger meets effluent limitations. Any effluent that does not comply may be pumped to one of two holding ponds, from which it is pumped back to either the PEP plant or Tank-28 for treatment. The first pond is called the Storm Water Accumulation Pond. It is HDPE-lined and used for managing storm water runoff and emergency storage of non-compliant effluent. The second pond is called the Utility/Spill Control Pond. It is hypalon-lined and used primarily as a spill containment system for process spills that may occur during normal operation. It also serves to collect storm water runoff from the loading area and as a reserve holding pond for process wastewater.

The Plant's current maximum discharge flow rate is 0.593 MGD, the maximum average monthly flow rate is 0.25 MGD, and the long-term average flow rate is 0.105 MGD.

The western highlands drain collection system collects storm water from the paved areas around the maintenance office and warehouse and from the area surrounding a closed evaporation pond. This storm water is discharged to Peyton Slough at Discharge Point 002 (38º 01' 52" N, 122º 06' 40"W).

Attachment B provides a map of the area around the Plant. Attachment C provides a flow schematic of the Plant.

B. Discharge Points and Receiving Waters

The receiving waters and the locations of the Plant discharge points are listed in Table F-2 below. Carquinez Strait and Peyton Slough are located in the Suisun Bay hydrologic area within the Suisun Watershed.

Table F-2. Outfall Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Treated Process Wastewater	38º 02' 18" N	122º 07' 01" W	Carquinez Strait
002	Storm water	38º 01' 52" N	122º 06' 40" W	Peyton Slough

C. Summary of Existing Requirements and Self-Monitoring Report Data

Effluent limitations contained in the previous permit (Order No. R2-2004-0042) and representative monitoring data from the term of the previous permit are as follows:

Table F-3. Previous Effluent Limitations (Order No. R2-2004-0042) and Monitoring Data for Conventional and Non-Conventional Pollutants at Discharge Point 001

Parameter	(units)	Effluent Limitations		Monitoring Data (From 09/04 to 12/08)	
		Monthly Average	Daily Maximum	Highest Monthly Average	Highest Daily Discharge
COD	mg/L	---	52	---	45
	kg/day	---	42.5	---	18.5
TSS	mg/L	20	30	16.75	22.7
	kg/day	9.46	27.7	7.88	10.9
pH	s.u.	Within 6.0 – 9.0		6.6 – 8.8	
Settleable Solids	mL/L-hr	0.1	0.2	< 0.1	< 0.1
Oil and Grease	mg/L	---	5	---	< 0.2
	kg/day	---	4.6	---	< 0.084
Acute Toxicity	% Survival	11-sample median – 90% minimum 11-sample 90th percentile – 70% minimum		11-sample median – 100% minimum 11-sample 90th percentile – 90% minimum	

Footnotes to Table F-3:

Units:

mg/L = milligrams per liter
s.u. = standard units
mL/L-hr = milliliters per liter per hour

Table F-4. Previous Effluent Limitations (Order No. R2-2004-0042) and Monitoring Data for Toxic Pollutants at Discharge Point 001

Parameter	Units[1]	Final Limits		Interim Limits	Monitoring Data (From 09/04 to 12/08)
		Daily Maximum	Monthly Average	Daily Maximum	Highest Daily Concentration
Cadmium	µg/L	8.3	4.1	---	4.1
Chromium VI	µg/L	118	57	---	7.8
Copper	µg/L	---	---	37	22.6
Mercury	µg/L	---	---	0.32	0.0087
Nickel	µg/L	---	---	46	33.6
Selenium	µg/L	---	---	46	15
Silver	µg/L	10.4	4.6	75	3.6
Bis(2-ethylhexyl)phthalate	µg/L	106	53	---	6.9
4,4'-DDE	µg/L	---	---	0.05	0.0028
Dieldrin	µg/L	---	---	0.01	< 0.0012

Footnotes to Table F-4:

Units:

µg/L = micrograms per liter
< = Analyte not detected in effluent. Value provided is the minimum method detection limit (MDL) as reported by the analytical laboratory.

Table F-5. Monitoring Data at Discharge Point 002

Parameter	Units	Monitoring Data (from 09/04 – 12/08)	
		Minimum	Maximum
Total Suspended Solids	mg/L	5	77.9
Oil and Grease	mg/L	< 1.4	2
pH	s.u.	6.1	8.06
Conductivity	µmhos/cm	80	2636

Footnotes to Table F-5:

Units:

mg/L	=	milligrams per liter
s.u.	=	standard units
µmhos/cm	=	micromhos per centimeter
<	=	Analyte not detected in effluent. Value provided is the minimum method detection limit (MDL) as reported by the analytical laboratory.

D. Compliance Summary

1. **Compliance with Numeric Effluent Limits.** There were no exceedances of numeric effluent limitations from 2004 through 2008.

2. **Compliance with Previous Permit Provisions.** A list of special activities required by the previous Order and the status of those requirements are shown in Table F-6, below.

Table F-6. Compliance with Previous Permit Provisions

Provision Number	Requirement	Status of Completion
D.5	Storm Water Pollution Prevention Plan and Annual Report	Updated SWPPP submitted 10/30/07, and annual report submitted 7/1/05, 7/15/06, and 8/28/08
D.6	Best Management Practices (BMP) Program	Updated BMP Program submitted 3/30/05, and letter indicating no changes to the program submitted annually thereafter.
D.11	Copper and Nickel Translator Study and Schedule (Optional)	Not Completed (Optional)

E. Planned Changes

No major changes are planned at the Plant.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order is issued pursuant to the Clean Water Act (CWA) Section 402 and implementing regulations adopted by the USEPA and California Water Code (CWC) Chapter 5.5, Division 7 (commencing with Section 13370). It shall serve as an NPDES permit for point source discharges from this Plant to surface waters. This Order also serves as WDRs pursuant to CWC Article 4, Chapter 4, Division 7 (commencing with Section 13260).

B. California Environmental Quality Act (CEQA)

Under CWC section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan) is the Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives (WQOs) for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve WQOs. The Basin Plan was adopted by the Regional Water Board and approved by the State Water Resources Control Board, Office of Administrative Law, and USEPA. Requirements of this Order implement the Basin Plan.

   The Basin Plan states that the beneficial uses of any specifically identified water body generally apply to its tributaries. The Basin Plan does not specifically identify beneficial uses for Peyton Slough, but does identify present and potential uses for Carquinez Strait, to which Peyton Slough is tributary.

   The Basin Plan implements State Water Board Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). Because of the tidal and marine influence on these receiving waters, total dissolved solids levels are expected to exceed 3,000 milligrams per liter (mg/L) and thereby qualify for an exception to State Water Board Resolution No. 88-63. The MUN designation does not apply to the receiving waters for this discharge.

   Table F-7 summarizes the beneficial uses of Peyton Slough and Carquinez Strait.

   Table F-7. Beneficial Uses of Peyton Slough and Carquinez Strait

Discharge Point	Receiving Water Name	Beneficial Uses
001 002	Carquinez Strait Peyton Slough	Industrial Service Supply (IND) Ocean, Commercial, and Sport Fishing (COMM) Estuarine Habitat (EST) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Fish Spawning (SPWN) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Navigation (NAV)

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and amended it on May 4, 1995, and November 9, 1999. About 40 criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that applied in the state. The CTR was amended on

February 13, 2001. These rules contain water quality criteria (WQC) for priority toxic pollutants, which are applicable to the receiving waters for this Discharger.

3. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP*)*. The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes [65 Fed. Reg. 24641 (April 27, 2000) codified at 40 CFR 131.21]. Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

5. **Antidegradation Policy.** 40 CFR 131.12 requires that state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution 68-16, which incorporates the federal antidegradation policy where it applies. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

6. **Anti-Backsliding Requirements.** CWA Sections 402(o)(2) and 303(d)(4) and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

D. Impaired Water Bodies on CWA 303(d) List

In November 2006, the USEPA approved a revised list of impaired water bodies prepared by the State [the 303(d) list], pursuant to provisions of CWA section 303(d). It identifies specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. Peyton Slough is not listed as an impaired waterbody, but Carquinez Strait, to which Peyton Slough is tributary, is 303(d) listed for chlordane, DDT, dieldrin, dioxin compounds, furan compounds, exotic species, mercury, PCBs, PCBs (dioxin-like), and selenium. The SIP requires final effluent limitations for all 303(d)-listed pollutants to be consistent with total maximum daily loads and associated waste load allocations. A TMDL for

mercury for San Francisco Bay was adopted February 12, 2008. The Plant's discharge of mercury is regulated by Regional Water Board Order No. R2-2007-0077, which implements the adopted mercury TMDL and contains monitoring and reporting requirements.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants discharged into waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in 40 CFR: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 122.44(d) requires that permits include WQBELs to attain and maintain applicable numeric and narrative WQC to protect the beneficial uses of the receiving water. Where Reasonable Potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, a WQBEL may be established (1) using USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) using an indicator parameter for the pollutant of concern; or (3) using a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

Specific factors affecting the development of limitations and requirements in this Order are discussed below.

A. Discharge Prohibitions

1. **Discharge Prohibition III.A (No discharge other than as described in this Order):** This prohibition is the same as in the previous permit and is based on CWC section 13260, which requires filing a Report of Waste Discharge before discharges can occur. Discharges not described in the Report of Waste Discharge, and subsequently in this Order, are prohibited.

2. **Discharge Prohibition III.B (No Discharge at Discharge Point 001 that does not receive at least 10:1 dilution):** This prohibition is retained from the previous permit and is based on Discharge Prohibition 1 from Basin Plan Table 4-1, which prohibits discharges that do not receive a minimum 10:1 initial dilution. Further, this Order allows a 10:1 dilution credit in the calculation of some WQBELs, and these limits would not be protective of water quality without a 10:1 minimum initial dilution.

3. **Discharge Prohibition III.C (No bypass or overflow of untreated or partially treated wastewaters):** This prohibition is newly established by the Order and is based on 40 CFR 122.41(m) (see federal Standard Provisions, Attachment D, Section G).

4. **Discharge Prohibition III.D (Discharge flow rate at E-001 shall not exceed 0.8 MGD):** This prohibition is retained from the previous permit and is based on past discharge flows, which have a potential maximum daily rate of 0.799 MGD during heavy rain periods.

B. Technology-Based Effluent Limitations

1. Scope and Authority

USEPA has not promulgated effluent limitations guidelines that contain technology-based treatment requirements for the type of industry at the Plant. The Regional Water Board used Best Professional Judgment (BPJ), pursuant to 40 CFR 125.3, to develop technology-based effluent limitations for the Plant. USEPA assisted the Regional Water Board in developing site-specific BPJ-based best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT) effluent limitations for the Plant, which were set forth in a September 12, 1984, report titled, *Final Development of BAT and BCT Permit Limitations for the Stauffer Chemical Company*. (The Stauffer Chemical Company was the operating company prior to Rhone-Poulenc and Rhodia.)

Effluent limitations were developed by matching the treatment process and wastewater constituents to a similar industry. The report determined that the Plant was similar to the metal finishing industry, and that the typical treatment for wastewater from this industry, precipitation and settling, is the treatment process in place at the Plant and is equivalent to BAT and BCT. Table F-8 presents the effluent limitations for conventional and non-conventional pollutants USEPA and the Regional Water Board developed.

Table F-8. BPJ-Based BAT and BCT Effluent Limitations

	Monthly Average	Daily Maximum
COD	---	46 mg/L
TSS	20 mg/L	30 mg/L
Oil and Grease	---	5

For COD, the previous permit increased the concentration-based limitation from 46 mg/L to 52 mg/L to reflect the Discharger's water conservation efforts. The Discharger had reduced the amount of freshwater used to produce a ton of sulfuric acid by approximately 12 percent from the time the COD limitation was developed, and therefore the limitation was increased by the same factor.

In 2009, the Contra Costa Water District imposed mandatory water conservation requirements on Rhodia, including a 5% decrease in water usage from historical rates. Because Rhodia's Plant generally cycles its water six times through the cooling tower, according to its engineering estimates, the 5% mandatory water rationing will result in a 43% increase in the COD concentration. Therefore, the COD limit was increased 43% from 52 ppm to 74 ppm.

The Regional Water Board used Best Professional Judgment (BPJ) to establish the Rhodia's site-specific COD limit in the previous permit, pursuant to 40 C.F.R. § 125.3. With conventional pollutants, such as COD, best conventional pollution control technology (BCT) and best practical control technology currently available (BPT) applies. Process changes, such as the mandated water reduction imposed by the Contra Costa Water District, may be taken into account in establishing BCT and BPT. Increasing the COD limits does not violate anti-backsliding requirements because backsliding is allowed if there has been a material and substantial alteration or addition to a permitted facility or if there are events that a facility has no

control (see 40 C.F.R. § 122.44(l)). In the case of mandatory water rationing, Rhodia falls within the exception to backsliding and that a higher limit is justified.

2. Applicable Effluent Limitations

This Order retains the previous permit effluent limitations for conventional and non-conventional pollutants, applicable to Discharge Point 001. The concentration-based effluent limitations for COD, TSS, and oil and grease are derived using BPJ, as described above. The mass-based limits are based on a long-term average flow of 0.125 MGD for average monthly limits, and a maximum daily average dry weather flow of 0.244 MGD for maximum daily limitations. The COD, TSS, and oil and grease limits are based on BAT and BCT established based on a study completed 25 years ago. Provision VI.C.9 of this Order requires an updated study to evaluate whether BAT and BCT have evolved since 1984, and if so, what technology-based limits would be appropriate for the Regional Water Board to consider when reissuing this permit.

The pH limitations are retained from the previous permit as Basin Plan Table 4-2 requires. The settleable solids limits are not retained because the Basin Plan has been amended to remove those limits for treatment facilities.

C. Water Quality-Based Effluent Limitations (WQBELs)

WQBELs have been derived to implement WQOs that protect beneficial uses. Both the beneficial uses and the WQOs have been approved pursuant to federal law. USEPA approved SIP procedures for calculating individual WQBELs prior to May 1, 2001. USEPA also approved Basin Plan provisions for calculating individual WQBELs on May 29, 2000. Most beneficial uses and WQOs contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any WQOs and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date are nonetheless "applicable water quality standards for purposes of the [Clean Water] Act" pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than the applicable WQS for purposes of the CWA.

1. Scope and Authority

a. NPDES regulations at 40 CFR 122.44(d)(1)(i) mandate that permits include WQBELs for all pollutants, including toxicity, that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an excursion of a WQS, including numeric and narrative objectives within a standard (Reasonable Potential). As specified in 40 CFR 122.44(d)(1)(i), permits are required to include WQBELs for all pollutants "which the Director determines are or may be discharged at a level which will cause, have the Reasonable Potential to cause, or contribute to an excursion above any State water quality standard." Where Reasonable Potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric WQC, such as a proposed state criterion or policy interpreting

the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining Reasonable Potential and calculating WQBELs when necessary is intended to (1) protect the designated beneficial uses of the receiving water as specified in the Basin Plan, and (2) achieve applicable WQOs contained in the CTR, NTR, and Basin Plan.

b. NPDES regulations and the SIP provide the basis to establish Maximum Daily Effluent Limitations (MDELs).

(1) NPDES Regulations. NPDES regulations at 40 CFR 122.45(d) state, "For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall *unless impracticable* be stated as maximum daily and average monthly discharge limitations for all discharges other than publicly owned treatment works."

(2) SIP. SIP Section 1.4 requires WQBELs be expressed as MDELs and average monthly effluent limitations (AMELs).

c. MDELs are used in this Order to protect against acute water quality effects. The MDELs are necessary for preventing fish kills or mortality to aquatic organisms.

2. Applicable Beneficial Uses and WQC

WQCs and WQOs applicable to the receiving waters for this discharge are from the Basin Plan; the CTR, established by USEPA at 40 CFR 131.38; and the NTR, established by USEPA at 40 CFR 131.36. Some pollutants have WQC or WQOs established by more than one of these three sources.

a. Basin Plan. The Basin Plan specifies numeric WQOs for 10 priority toxic pollutants, as well as narrative WQOs for toxicity and bioaccumulation in order to protect beneficial uses. The pollutants for which the Basin Plan specifies numeric objectives are arsenic, cadmium, chromium (VI), copper in salt and freshwater, lead, mercury, nickel, silver, zinc, and cyanide. The narrative toxicity objective states in part, "all waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms." The bioaccumulation objective states in part, "controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered." Effluent limitations and provisions contained in this Order are based on available information to implement these objectives.

b. CTR. The CTR specifies numeric aquatic life criteria for 23 priority toxic pollutants and numeric human health criteria for 57 priority toxic pollutants. These criteria apply to all inland surface waters and enclosed bays and estuaries of the San Francisco Bay Region, although Basin Plan Tables 3-3 and 3-4 include numeric objectives for certain of these priority toxic pollutants that supersede the CTR criteria (except in the South Bay south of the Dumbarton Bridge).

Human health criteria are further identified as for "water and organisms" and "organisms only." Because the receiving waters are not designated for the MUN beneficial use, the CTR criteria applicable to "organisms only" were used for the RPA.

c. NTR. The NTR establishes numeric aquatic life criteria for selenium and numeric human health criteria for 33 toxic organic pollutants for waters of San Francisco Bay upstream to and including Suisun Bay and the Sacramento River-San Joaquin River Delta. These NTR criteria apply to Carquinez Strait.

d. Basin Plan Receiving Water Salinity Policy. The Basin Plan and CTR state that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water shall be considered in determining the applicable WQC. Freshwater criteria shall apply to discharges to waters with salinities equal to or less than one part per thousand (ppt) at least 95 percent of the time. Saltwater criteria shall apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to water with salinities in between these two categories, or tidally influenced freshwaters that support estuarine beneficial uses, the criteria shall be the lower of the salt or freshwater criteria (the latter calculated based on ambient hardness) for each substance.

The receiving water for the discharge at Discharge Point 001 is Carquinez Strait. Salinity as measured at Regional Monitoring Program (RMP) station BF10 at Pacheco Creek indicates an estuarine environment. Thirty two (32) percent of samples collected between 1993 and 2001 were less than 1 parts per thousand (ppt), 14 percent were greater than 10 ppt, and the remaining samples fell between 1 and 10 ppt.

e. Receiving Water Hardness. Ambient hardness values are used to calculate freshwater WQOs that are hardness dependent. In determining the WQOs for this Order, Regional Water Board staff used a hardness of 80 mg/L as $CaCO_3$, which was calculated as the adjusted geometric mean of hardness data (censored for hardness of greater than 400 mg/L and salinity of greater than 1 ppt) collected at the Pacheco Creek RMP station, the nearest RMP station to the discharge, between 1995 and 2001.

f. Site-Specific Metals Translators. NPDES regulations at 40 CFR 122.45(c) require that effluent limitations for metals be expressed as total recoverable metal. Since applicable WQC for metals are typically expressed as dissolved metal, translators must be used to convert metals concentrations from dissolved to total recoverable and vice versa. In the CTR, USEPA establishes default translators to be used in NPDES permits; however, site-specific conditions, such as water temperature, pH, suspended solids, and organic carbon, greatly impact the form of metal (dissolved, non-filterable, or otherwise) present in the water and therefore available to cause toxicity. In general, the dissolved (filterable) form of a metal is more available and more toxic to aquatic life than non-filterable forms. Site-specific translators can be developed to account for site-specific conditions, thereby preventing exceedingly stringent or under-protective WQBELs.

For deep water discharges to North San Francisco Bay, Regional Water Board staff applied the following translators for nickel based on recommendations in the Clean Estuary Partnership's *North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators* (2005). The Regional Water Board adopted Resolution

No. R2-2007-0042 and USEPA approved it on January 6, 2009, which lists the following copper site-specific translators for San Francisco Bay deep water discharges. In determining the need for and calculating WQBELs for all other metals, Regional Water Board staff used default translators established by USEPA in the CTR at 40 CFR 131.38(b)(2), Table 2.

Table F-9. Cu and Ni Translators for Deepwater Dischargers to North San Francisco Bay

Pollutant	Site-Specific Translators	
	MDEL	AMEL
Copper	0.66	0.38
Nickel	0.57	0.27

3. Determining the Need for WQBELs

Assessing whether a pollutant has Reasonable Potential is the fundamental step in determining whether or not a WQBEL is required. Using the methods described in SIP Section 1.3, Regional Water Board staff analyzed the effluent data to determine if the discharge demonstrates Reasonable Potential. The Reasonable Potential Analysis (RPA) compares the effluent data with numeric and narrative WQOs in the Basin Plan, the NTR, and the CTR.

a. Reasonable Potential Analysis (RPA). The RPA identifies the observed maximum effluent concentration (MEC) in the effluent for each pollutant based on effluent concentration data. There are three triggers in determining Reasonable Potential according to SIP Section 1.3.

(1) The first trigger (Trigger 1) is activated if the MEC is greater than or equal to the lowest applicable WQO (MEC $\geq$ WQO), which has been adjusted, if appropriate, for pH, hardness, and translator data. If the MEC is greater than or equal to the adjusted WQO, then that pollutant has Reasonable Potential, and a WQBEL is required.

(2) The second trigger (Trigger 2) is activated if the observed maximum ambient background concentration (B) is greater than the adjusted WQO (B > WQO) and the pollutant is detected in any of the effluent samples (MEC > ND).

(3) The third trigger (Trigger 3) is activated if a review of other information determines that a WQBEL is required to protect beneficial uses, even though both MEC and B are less than the WQO.

b. Effluent Data. The Discharger monitors for the priority pollutants using analytical methods that provide the best detection limits reasonably feasible. Regional Water Board staff analyzed these effluent data and the nature of the discharge to determine if the discharge has Reasonable Potential.

The RPA was based on the effluent monitoring data collected from January 2006 through December 2008 for inorganic pollutants other than selenium. For selenium, the RPA was based on data from December 2006 to December 2009. Data prior to December 2006 was

not included because (1) Rhodia's contract laboratory was sampling for dissolved selenium, not total selenium, from July 2006 to November 2006; and (2) Rhodia's on-site laboratory was unable to achieve detection levels low enough to meet required minimum levels for the analytical methods in use prior to July 2006. The RPA was based on the effluent monitoring data collected from March 2005 through October 2008 for organic pollutants.

c. **Ambient Background Data.** Ambient background values are used to determine Reasonable Potential and to calculate effluent limitations, when necessary. For the RPA, ambient background concentrations are the observed maximum detected water column concentrations. The SIP states that for calculating WQBELs, ambient background concentrations are either the observed maximum ambient water column concentrations or, for WQOs intended to protect human health from carcinogenic effects, the arithmetic mean of observed ambient water concentrations.

The background data used in the RPA were generated at the Yerba Buena RMP station, a far-field background station that has been monitored for most of the inorganic (CTR constituent numbers 1–15) and some of the organic (CTR constituent numbers 16–126) toxic pollutants.

The RMP does not monitor for all the constituents listed in the CTR. On May 15, 2003, a group of several San Francisco Bay Region dischargers (known as the Bay Area Clean Water Agencies, or BACWA) submitted a collaborative receiving water study, entitled the *San Francisco Bay Ambient Water Monitoring Interim Report* (2003). This study includes monitoring results from sampling events in 2002 and 2003 for the remaining priority pollutants not monitored by the RMP. The BACWA report, *Ambient Water Monitoring: Final CTR Sampling Update Report*, dated June 15, 2004, provided additional data.

Regional Water Board staff conducted a RPA and calculated WQBELs using RMP data from 1993 through 2006 for inorganics and organics at the Yerba Buena RMP station, and additional data from the BACWA receiving water study.

e. **Reasonable Potential Determination.** The MECs, most stringent applicable WQC, and background concentrations used in the RPA are presented in the following table, along with the RPA results (Yes or No) for each pollutant analyzed. Reasonable Potential was not determined for all pollutants because there are not applicable WQC for all pollutants and monitoring data are not available for others. The RPA determined that the pollutants that exhibit Reasonable Potential are arsenic, cadmium, copper, lead, selenium, silver, cyanide, bis(2-ethylhexyl)phthalate, and 4,4-DDD by Trigger 1; and dioxin-TEQ by Trigger 2.

Regional Water Board Order No. R2-2007-0077 became effective March 1, 2008, and regulates discharges of mercury. Order No. R2-2007-0077 is a Watershed Permit that implements the San Francisco Bay Mercury TMDL. The discharge of mercury from the Plant is therefore regulated by means other than this Order.

Table F-10. Reasonable Potential Analysis Summary

CTR #	Priority Pollutants	MEC or Minimum DL [(a)(b)] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [(a)(b)] (µg/L)	RPA Results [(c)]
1	Antimony	28.7	4300	1.8	No
2	**Arsenic**	**43.8**	**36**	**2.46**	**Yes**
3	Beryllium	0.3	No Criteria	0.215	Ud
4	**Cadmium**	**4.1**	**0.95**	**0.13**	**Yes**
5a	Chromium (III)	Not Available	172	Not Available	Ud
5b	Chromium (VI)	4.7	11	4.4	No
6	**Copper**	**22.6**	5.9	2.55	**Yes**
7	**Lead**	**6.4**	2.4	0.804	**Yes**
8	Mercury (303d listed)	---	---	---	---
9	Nickel	29.5	30	3.73	No
10	**Selenium (303d listed)**	**15**	5	0.39	**Yes**
11	**Silver**	**2.4**	2.2	0.052	**Yes**
12	Thallium	4	6.3	0.21	No
13	Zinc	41.4	86	5.09	No
14	**Cyanide**	**3.7**	2.9	<0.4	**Yes**
15	Asbestos	Not Available	No Criteria	Not Available	Ud
16	2,3,7,8-TCDD (303d listed)	< 6.99E-07	1.4E-08	8.2E-09	No
	Dioxin TEQ (303d listed)	**9.5E-12**	**1.4E-08**	**5.3E-08**	**Yes**
17	Acrolein	< 1.1	780	< 0.5	No
18	Acrylonitrile	< 0.46	0.66	0.03	No
19	Benzene	< 0.05	71	< 0.05	No
20	Bromoform	<0.099	360	< 0.5	No
21	Carbon Tetrachloride	< 0.082	4.4	0.06	No
22	Chlorobenzene	< 0.077	21,000	< 0.5	No
23	Chlorodibromomethane	<0.052	34	< 0.05	No
24	Chloroethane	< 0.13	No Criteria	< 0.5	Ud
25	2-Chloroethylvinyl ether	< 0.5	No Criteria	< 0.5	Ud
26	Chloroform	5.9	No Criteria	< 0.5	Ud
27	Dichlorobromomethane	0.064	46	< 0.05	No
28	1,1-Dichloroethane	< 0.078	No Criteria	< 0.05	Ud
29	1,2-Dichloroethane	< 0.043	99	0.04	No
30	1,1-Dichloroethylene	< 0.086	3.2	< 0.5	No
31	1,2-Dichloropropane	< 0.078	39	< 0.5	No
32	1,3-Dichloropropylene	< 0.064	1700	< 0.5	No
33	Ethylbenzene	< 0.064	29,000	< 0.5	No
34	Methyl Bromide	< 0.25	4000	< 0.5	No
35	Methyl Chloride	< 0.12	No Criteria	< 0.5	Ud
36	Methylene Chloride	<0.25	1600	22	No
37	1,1,2,2-Tetrachloroethane	< 0.081	11	< 0.05	No
38	Tetrachloroethylene	< 0.066	8.85	< 0.05	No
39	Toluene	<0.062	200,000	< 0.3	No
40	1,2-Trans-Dichloroethylene	< 0.091	140,000	< 0.5	No
41	1,1,1-Trichloroethane	< 0.065	No Criteria	< 0.5	Ud
42	1,1,2-Trichloroethane	< 0.082	42	< 0.05	No
43	Trichloroethylene	< 0.055	81	< 0.5	No
44	Vinyl Chloride	< 0.14	525	< 0.5	No
45	2-Chlorophenol	< 0.5	400	< 1.2	No
46	2,4-Dichlorophenol	< 0.5	790	< 1.3	No
47	2,4-Dimethylphenol	< 0.5	2300	< 1.3	No
48	2-Methyl- 4,6-Dinitrophenol	< 1.1	765	< 1.2	No

CTR #	Priority Pollutants	MEC or Minimum DL [(a)(b)] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [(a)(b)] (µg/L)	RPA Results [(c)]
49	2,4-Dinitrophenol	< 1.6	14000	< 0.7	No
50	2-Nitrophenol	< 0.57	No Criteria	< 1.3	Ud
51	4-Nitrophenol	<1.4	No Criteria	< 1.6	Ud
52	3-Methyl 4-Chlorophenol	< 0.5	No Criteria	< 1.1	Ud
53	Pentachlorophenol	< 0.64	7.9	< 1	No
54	Phenol	<0.45	4,600,000	< 1.3	No
55	2,4,6-Trichlorophenol	< 0.5	6.5	< 1.3	No
56	Acenaphthene	< 0.04	2700	0.0019	No
57	Acenaphthylene	< 0.06	No Criteria	0.0013	Ud
58	Anthracene	< 0.06	110,000	5.9E-04	No
59	Benzidine	< 2.7	0.00054	< 0.00015	No
60	Benzo(a)Anthracene	< 0.49	0.049	5.3E-03	No
61	Benzo(a)Pyrene	< 0.049	0.049	3.3E-03	No
62	Benzo(b)Fluoranthene	< 0.04	0.049	4.6E-03	No
63	Benzo(ghi)Perylene	< 0.12	No Criteria	4.5E-03	Ud
64	Benzo(k)Fluoranthene	< 0.02	0.049	1.8E-03	No
65	Bis(2-Chloroethoxy)Methane	< 0.5	No Criteria	< 0.3	Ud
66	Bis(2-Chloroethyl)Ether	< 0.5	1.4	< 0.3	No
67	Bis(2-Chloroisopropyl)Ether	< 0.5	170,000	Not Available	No
68	**Bis(2-Ethylhexyl)Phthalate**	**6.9**	**5.9**	**< 0.7 [d]**	**Yes**
69	4-Bromophenyl Phenyl Ether	< 0.5	No Criteria	< 0.23	Ud
70	Butylbenzyl Phthalate	2.3	5200	0.0056	No
71	2-Chloronaphthalene	< 0.5	4300	< 0.3	No
72	4-Chlorophenyl Phenyl Ether	< 0.5	No Criteria	< 0.3	Ud
73	Chrysene	< 0.02	0.049	2.8E-03	No
74	Dibenzo(a,h)Anthracene	< 0.04	0.049	6.4E-04	No
75	1,2-Dichlorobenzene	< 0.051	17,000	< 0.3	No
76	1,3-Dichlorobenzene	< 0.05	2600	< 0.3	No
77	1,4-Dichlorobenzene	< 0.053	2600	< 0.3	No
78	3,3 Dichlorobenzidine	< 1	0.077	< 0.0001	No
79	Diethyl Phthalate	<0.5	120,000	< 0.21	No
80	Dimethyl Phthalate	< 0.48	2,900,000	< 0.21	No
81	Di-n-Butyl Phthalate	2.5	12,000	0.016	No
82	2,4-Dinitrotoluene	< 0.49	9.1	< 0.27	No
83	2,6-Dinitrotoluene	< 0.5	No Criteria	< 0.29	Ud
84	Di-n-Octyl Phthalate	4.9	No Criteria	< 0.38	Ud
85	1,2-Diphenylhydrazine	< 0.15	0.54	0.0037	No
86	Fluoranthene	<0.04	370	0.0109	No
87	Fluorene	< 0.04	14,000	2.1E-03	No
88	Hexachlorobenzene	< 0.37	0.00077	2.2E-05	No
89	Hexachlorobutadiene	< 0.46	50	< 0.3	No
90	Hexachlorocyclopentadiene	< 0.51	17,000	< 0.3	No
91	Hexachloroethane	< 0.5	8.9	< 0.2	No
92	Indeno(1,2,3-cd)Pyrene	< 0.04	0.049	3.98E-03	No
93	Isophorone	< 0.5	600	< 0.3	No
94	Naphthalene	< 0.04	No Criteria	0.013	Ud
95	Nitrobenzene	< 0.63	1900	< 0.25	No
96	N-Nitrosodimethylamine	< 0.57	8.1	< 0.3	No
97	N-Nitrosodi-n-Propylamine	< 0.5	1.4	< 0.001	No
98	N-Nitrosodiphenylamine	< 0.5	16	9.51E-03	No
99	Phenanthrene	< 0.02	No Criteria	3.442E-03	Ud
100	Pyrene	< 0.02	11,000	0.0194	No
101	1,2,4-Trichlorobenzene	< 0.46	No Criteria	< 0.3	Ud

CTR #	Priority Pollutants	MEC or Minimum DL [(a)(b)] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [(a)(b)] (µg/L)	RPA Results [(c)]
102	Aldrin	< 0.001	0.00014	2.8E-06	No
103	Alpha-BHC	< 0.0077	0.013	4.96E-04	No
104	Beta-BHC	< 0.001	0.046	4.13E-04	No
105	Gamma-BHC	< 0.001	0.063	7.03E-04	No
106	Delta-BHC	0.0028	No Criteria	5.3E-05	Ud
107	Chlordane (303d listed)	< 0.1	0.00059	1.8E-04	No
108	4,4'-DDT (303d listed)	< 0.0019	0.00059	1.7E-04	No
109	4,4'-DDE (linked to DDT)	< 0.0011	0.00059	6.9E-04	No
110	**4,4'-DDD**	**0.0028**	**0.00084**	**3.1E-04**	**Yes**
111	Dieldrin (303d listed)	< 0.0012	0.00014	2.6E-04	No
112	Alpha-Endosulfan	< 0.001	0.0087	3.1E-05	No
113	beta-Endolsulfan	< 0.0014	0.0087	6.9E-05	No
114	Endosulfan Sulfate	< 0.0017	240	8.2E-05	No
115	Endrin	< 0.004	0.0023	4.0E-05	No
116	Endrin Aldehyde	< 0.002	0.81	Not Available	No
117	Heptachlor	< 0.0017	0.00021	1.9E-05	No
118	Heptachlor Epoxide	< 0.001	0.00011	9.4E-05	No
119-125	PCBs sum (303d listed)	< 0.036	0.00017	1.5E-03	No
126	Toxaphene	< 0.26	0.0002	Not Available	No
---	Tributylin	Not Available	0.0074	0.0022	Ud
---	Total PAHs	< 0.02	15	0.084	No
---	Total Ammonia (mg/L N)	Not Available	1.24	0.20	Ud

Footnotes to Table F-10:

(a) The Maximum Effluent Concentration (MEC) and maximum background concentration are the actual detected concentrations unless preceded by a "<" sign, in which case the value shown is the minimum detection level (DL).

(b) The MEC or maximum background concentration is "Not Available" when there are no monitoring data for the constituent.

(c) RPA Results = Yes, if MEC > WQO/WQC, B > WQO/WQC and MEC is detected, or Trigger 3;
= No, if MEC and B are < WQO/WQC or all effluent data are undetected;
= Undetermined (Ud), if no criteria have been promulgated or there are insufficient data.

(d) Background data for bis(2-ethylhexyl)phthalate at the Yerba Buena RMP station included two detected values; however, these values are questionable because a second laboratory analysis did not confirm detectable values. Therefore, these two values were not considered in conducting the RPA. The remaining background values for bis(2-ethylhexyl)phthalate were non-detect values.

(1) Constituents with limited data. In some cases, Reasonable Potential cannot be determined because effluent data are limited or ambient background concentrations are not available. The Discharger will continue to monitor for these constituents in the effluent using analytical methods that provide the best feasible detection limits. When additional data become available, further RPA will be conducted to determine whether to add numeric effluent limitations to this Order or to continue monitoring.

(2) Pollutants with no Reasonable Potential. WQBELs are not included in this Order for constituents that do not demonstrate Reasonable Potential; however, monitoring for these pollutants is still required. If concentrations of these constituents are found to have increased significantly, this permit requires the Discharger to investigate the sources of the increases (see Provision VI.C.2.a. and Provision VI.C.3.b.(3) of this Order). This permit also requires the Discharger to implement remedial measures if the increases pose a threat to water quality in the receiving water (see Provision VI.C.3.b.(4) of this Order).

The previous permit included final WQBELs for chromium (VI); however, because this RPA showed that discharges from the Plant no longer demonstrate Reasonable Potential for this pollutant, this Order does not retain the effluent limitations for this pollutant. This is consistent with State Water Board Order No. WQ 2001-16.

4. WQBEL Calculations

a. Pollutants with Reasonable Potential. WQBELs were developed for the toxic pollutants that were determined to have Reasonable Potential to cause or contribute to exceedances of the WQOs. The WQBELs were calculated based on appropriate WQOs and the procedures specified in SIP Section 1.4. The WQOs used for each pollutant with Reasonable Potential are discussed below.

b. Deep Water Discharge. The Plant discharge to Carquinez Strait is classified by the Regional Water Board as a deep water discharge, which the Basin Plan defines as a discharge through a diffuser that receives a minimum initial dilution of 10 to 1.

c. Dilution Credit. The SIP provides the basis for any dilution credit. The outfall at Discharge Point 001 is designed to achieve a minimum initial dilution of 10:1. Based on RMP monitoring data for San Francisco Bay, there is variability in the receiving water, and the hydrology of the receiving water is very complex. Therefore, it is uncertain how representative the ambient background data used to determine the effluent limitations is. Pursuant to SIP section 1.4.2.1, "dilution credit may be limited or denied on a pollutant-by-pollutant basis…." The detailed basis for each pollutant is explained below.

(1) Bioaccumulative Pollutants: For certain bioaccumulative pollutants, dilution credit is significantly restricted or denied. This determination is based on available data on concentrations of these pollutants in aquatic organisms, sediment, and the water column. Specifically, these pollutants include chlordane, dieldrin, dioxins, furans DDT, PCBs, and selenium, which all appear on the CWA section 303(d) list because they impair the Carquinez Strait's beneficial uses. The following factors suggest insufficient assimilative capacity in Carquinez Strait for these pollutants.

(a) Bioaccumulative Pollutants Excluding Selenium

Tissue samples taken from fish in San Francisco Bay show the presence of these pollutants at concentrations greater than screening levels (*Contaminant Concentrations in Fish from San Francisco Bay*, May 1997). The results of a 1994 San Francisco Bay pilot study, presented in *Contaminated Levels in Fish Tissue from San Francisco Bay* (Regional Water Board, 1994) also showed elevated levels of chemical contaminants in fish tissues. The Office of Environmental Health and Hazard Assessment completed a preliminary review of the data in the 1994 report and in December 1994 issued an interim consumption advisory covering certain fish species in San Francisco Bay due to the levels of some of these pollutants including dioxins and some pesticides. This advisory is still in effect.

Therefore, dilution credits are denied for bioaccumulative pollutants on the 303(d) for which there is lack of data on sources and significant uncertainty about how different sources of these pollutants contribute to bioaccumulation.

(b) Selenium

For selenium, San Francisco Bay waterfowl tissue data presented in the California Department of Fish and Game's Selenium Verification Study (1986-1990) showed elevated selenium levels in the livers of waterfowl that feed on bottom-dwelling organisms, such as clams. In addition, the Office of Environmental Health and Hazard Assessment issued an advisory in 1987 for consumption of two species of diving ducks in the North Bay found to have high tissue levels of selenium. This advisory is still in effect. Elevated selenium levels have also been found in the tissue of white sturgeon, which also feed on clams.

This information, together with high uncertainty regarding how different sources of selenium contribute to bioaccumulation, has previously led the Regional Water Board to deny dilution credit for selenium. However, since the reissuance of the Discharger's last permit in 2004, substantially more information has been generated to advance development of a TMDL for selenium in north San Francisco Bay segments. Based on this preliminary information, limited dilution credit for selenium is granted to the Discharger, but only to a level where existing treatment performance is maintained until completion of the selenium TMDL, after which time the Regional Water Board will amend the selenium limits to be consistent with the TMDL wasteload allocations. Granting a dilution credit for selenium is appropriate only because of the substantial amount of new information that has been generated and which does not apply to any other pollutant. Therefore, this Order uses a dilution credit of D = 9 (10:1 dilution) to calculate the selenium WQBELs.

(2) Non-bioaccumlative Pollutants: For non-bioaccumulative constituents, a conservative dilution allowance of 10:1 (D = 9) has been assigned. The 10:1 dilution allowance is consistent with the previous permit and is also based on Basin Plan Prohibition 1 (Table 4-1), which prohibits discharges with less than 10:1 dilution. SIP section 1.4.2 allows for limiting the dilution credit:

(a) A far-field background station is appropriate because the receiving water body (Carquinez Strait) is a very complex estuarine system with highly variable and seasonal upstream freshwater inflows and diurnal tidal saltwater inputs. SIP section 1.4.3 allows background conditions to be determined on a discharge-by-discharge or water body-by-water body basis. Regional Water Board staff has chosen to use a water body-by-water body basis due to inherent uncertainties in characterizing ambient background conditions in a complex estuarine system on a discharge-by-discharge basis.

The Yerba Buena Island RMP monitoring station, relative to other RMP stations, fits SIP guidance criteria for establishing background conditions. The SIP requires that background water quality data be representative of the ambient receiving water that will mix with the discharge. Water quality data from the

Yerba Buena Island monitoring station is representative of the water that will mix with discharges from Discharge Point 001.

(b) Because of the complex hydrology of Carquinez Strait, a mixing zone has not been established. There are uncertainties in accurately determining the mixing zones for each discharge. The models that have been used to predict dilution have not considered the three dimensional nature of Carquinez Strait currents resulting from the interaction of tidal flushes and seasonal fresh water outflows. Being heavier and colder than fresh water, ocean salt water enters San Francisco Bay on twice-daily tidal cycles, generally beneath the warmer fresh water that flows seaward. When these waters mix and interact, complex circulation patterns occur due to the varying densities of the fresh and ocean waters. The complex patterns occur throughout San Francisco Bay, but are most prevalent in the San Pablo, Carquinez Straight, and Suisun Bay areas. The locations of this mixing and interaction change, depending on the strength of each tide. Additionally, sediment loads from the Central Valley change on a long-term basis, affecting the depth of different parts of Carquinez Strait, resulting in alteration of flow patterns, mixing, and dilution at the outfall.

d. Calculation of Pollutant-Specific WQBELs.

(1) Arsenic

(a) Arsenic WQC. The most stringent applicable WQC for arsenic are established by the Basin Plan for protection of saltwater aquatic life: 69 µg/L and 36 µg/L, acute and chronic, respectively.

(b) RPA Results. This Order establishes effluent limitations for arsenic because the MEC of 43.8 µg/L exceeds the applicable WQC for this pollutant, demonstrating Reasonable Potential by Trigger 1.

(c) Arsenic WQBELs. WQBELs for arsenic, calculated according to SIP procedures (with a coefficient of variation (CV) of 0.97 and a dilution credit (D) of 9), are an AMEL of 247 µg/L and an MDEL of 615 µg/L.

(d) Antibacksliding. Antibacksliding requirements are satisfied because the previous permit did not include effluent limitations for arsenic.

(e) Immediate Compliance Feasible. Statistical analysis of effluent data for arsenic collected from December 2004 through October 2008 shows that the 95th percentile (50 µg/L) is less than the AMEL (247 µg/L); the 99th percentile (109 µg/L) is less than the MDEL (615 µg/L); and the mean (14 µg/L) is less than the long term average of the projected lognormal distribution of the effluent data set after accounting for effluent variability (129 µg/L). The Regional Water Board concludes therefore that immediate compliance with the WQBELs for arsenic is feasible.

(2) Cadmium

(a) Cadmium WQC. The most stringent applicable WQC for cadmium are established by the Basin Plan for protection of freshwater aquatic life: 3.0 µg/L and 0.95 µg/L, acute and chronic, respectively.

(b) RPA Results. This Order establishes effluent limitations for cadmium because the MEC of 4.1 µg/L exceeds the applicable WQC for this pollutant, demonstrating Reasonable Potential by Trigger 1.

(c) Cadmium WQBELs. WQBELs for cadmium, calculated according to SIP procedures (with a CV of 0.92 and a dilution credit (D) of 9), are an AMEL of 6.2 µg/L and an MDEL of 15 µg/L.

(d) Antibacksliding. The previous permit contained final effluent limitations for cadmium – an AMEL of 4.1 µg/L and an MDEL of 8.3 µg/L based on a hardness of 46 mg/L. The WQBELs above are based on a hardness of 80 mg/L, including hardness data that was generated during the term of the previous permit. This Order retains these WQBELs of the previous permit to avoid backsliding.

(e) Immediate Compliance Feasible. Statistical analysis of effluent data for cadmium collected from January 2006 through December 2008 shows that the 95th percentile (2.6 µg/L) is less than the AMEL (4.1 µg/L) and the 99th percentile (4.4 µg/L) is less than the MDEL (8.3 µg/L). The Regional Water Board concludes therefore that immediate compliance with the previous permit's WQBELs for cadmium is feasible. This Order retains the WQBELs from the previous permit.

(3) Copper

(a) Copper WQC. The most stringent WQC for copper are the saltwater aquatic life criteria from the Basin Plan. The Regional Water Board adopted these site-specific objectives through Regional Water Board Resolution No. R2-2007-0042, which the State Water Board approved on January 15, 2008 and USEPA approved on January 6, 2009. The chronic and acute marine site-specific objectives for copper for non-ocean marine waters are 2.5 and 3.9 micrograms per liter (µg/L), respectively, expressed as dissolved metal. Regional Water Board staff converted these WQC to total recoverable copper using the site-specific translators of 0.38 (chronic) and 0.66 (acute), as described in IV.C.2.g, above. The resulting chronic water quality criterion of 6.6 µg/L and acute water quality criterion of 5.9 µg/L were used to perform the RPA. These criteria incorporate a water effects ratio of 2.4.

(b) RPA Results. This Order establishes effluent limitations for copper because the MEC of 23 µg/L exceeds the governing WQC for copper, demonstrating Reasonable Potential by Trigger 1.

(c) Copper WQBELs. Effluent limitations for copper, calculated according to SIP procedures (with a CV of 0.77, and a dilution credit (D) of 9), are an AMEL of 53 µg/L and an MDEL of 119 µg/L.

(d) Antibacksliding. Antibacksliding requirements are satisfied because the previous permit did not include final effluent limitations for copper.

(e) Immediate Compliance Feasible. Statistical analysis of effluent data for copper, collected from January 2006 through December 2008, shows that the 95th percentile (16 µg/L) is less than the AMEL (53 µg/L); the 99th percentile (20 µg/L) is less than the MDEL (119 µg/L); and the mean (6.2 µg/L) is less than the long term average of the nonparametric distribution of the effluent data set after accounting for effluent variability (31 µg/L). The Regional Water Board concludes therefore that immediate compliance with final WQBELs for copper is feasible.

(4) Lead

(a) Lead WQC. The most stringent applicable WQC criteria for lead are established by the Basin Plan for protection of freshwater aquatic life: 61 µg/L and 2.4 µg/L, acute and chronic, respectively.

(b) RPA Results. This Order establishes effluent limitations for lead because the MEC of 6.4 µg/L exceeds the applicable WQC for this pollutant, demonstrating Reasonable Potential by Trigger 1.

(c) Lead WQBELs. WQBELs for lead, calculated according to SIP procedures (with a default CV of 0.6 and a dilution credit (D) of 9), are an AMEL of 14 µg/L and an MDEL of 27 µg/L.

(d) Antibacksliding. Antibacksliding requirements are satisfied because the previous Order did not include effluent limitations for lead.

(e) Immediate Compliance Feasible. With insufficient data to determine the distribution of the data set or to calculate a mean and standard deviation, feasibility to comply with final effluent limitations may be determined by comparing the MEC (6.4 µg/L) to the AMEL (14 µg/L) and the MDEL (27 µg/L). Based on this comparison, the Regional Water Board concludes that immediate compliance with the WQBELs for lead is feasible.

(5) Selenium

(a) Selenium WQC. The most stringent applicable WQC criteria for selenium are established by the NTR for protection of aquatic life: 20 µg/L and 5.0 µg/L, acute and chronic criteria, respectively.

(b) RPA Results. This Order establishes effluent limitations for selenium because the MEC of 15 µg/L exceeds the applicable WQC for this pollutant, demonstrating Reasonable Potential by Trigger 1.

(c) Selenium WQBELs. WQBELs for selenium, calculated according to SIP procedures (with a CV of 0.69 and a dilution credit (D) of 9), are an AMEL of 37 µg/L and an MDEL of 76 µg/L. The previous permit contained no AMEL, but did require an interim MDEL of 46 µg/L. Therefore, consistent with maintaining current performance, the WQBELs in this Order are an AMEL of 37 µg/L and an MDEL of 46 µg/L.

(d) Antibacksliding. Antibacksliding requirements are satisfied because the limits in this Order are not less stringent than previous permit limitations for selenium.

(e) Immediate Compliance Feasible. Statistical analysis of effluent data for selenium collected from December 2006 through December 2009 shows that the 95th percentile (10 µg/L) is less than the AMEL (37 µg/L); the 99th percentile (14 µg/L) is less than the MDEL (46 µg/L); and the mean (4.4 µg/L) is less than the long term average of the projected non-parametric distribution of the effluent data set after accounting for effluent variability (23 µg/L). Based on this analysis, the Regional Water Board concludes that immediate compliance with WQBELs for selenium is feasible.

(6) Silver

(a) Silver WQC. The most stringent applicable WQC criterion for silver is the chronic criterion of 2.2 µg/L established by the Basin Plan for protection of saltwater aquatic life.

(b) RPA Results. This Order establishes effluent limitations for silver because the MEC of 2.4 µg/L exceeds the applicable WQC for this pollutant, demonstrating Reasonable Potential by Trigger 1.

(c) Silver WQBELs. WQBELs for silver, calculated according to SIP procedures (with a CV of 0.79 and a dilution credit (D) of 9), are an AMEL of 9.6 µg/L and an MDEL of 22 µg/L.

(d) Antibacksliding. The previous permit contained final WQBELs for silver – an AMEL of 4.6 µg/L and an MDEL of 10.4 µg/L – based on the water quality criterion for freshwater aquatic life and a receiving water hardness of 46 mg/L. The WQBELs above are based on the water quality criterion for protection of salt water aquatic life, which is the most stringent applicable water quality criterion. To avoid backsliding, this Order retains the WQBELs of the previous permit.

(e) Immediate Compliance Feasible. Statistical analysis of effluent data for silver collected from January 2006 through December 2008 shows that the 95th percentile (2.8 µg/L) is less than the AMEL (4.6 µg/L), and the 99th percentile (5.7 µg/L) is less than the MDEL (10.4 µg/L). The Regional Water Board concludes therefore that immediate compliance with the previous permit's WQBELs for silver is feasible. This Order retains the WQBELs from the previous permit.

(7) Cyanide

(a) Cyanide WQC. The most stringent applicable WQC for cyanide are an acute criterion of 9.4 µg/L and a chronic criterion of 2.9 µg/L established by Basin Plan Table 3-3 for protection of marine aquatic life in San Francisco Bay. The Regional Water Board adopted these site-specific objectives through Regional Water Board Order No. R2-2006-0086 and USEPA approved the objectives on July 22, 2008.

(b) RPA Results. This Order establishes effluent limitations for cyanide because the MEC of 3.7 µg/L exceeds the governing WQC of 2.9 µg/L, demonstrating Reasonable Potential by Trigger 1.

(c) Cyanide WQBELs. WQBELs for cyanide, calculated according to SIP procedures (with a default CV of 0.60 and a dilution credit (D) of 9), are an AMEL of 21 µg/L and an MDEL of 42 µg/L.

(d) Antibacksliding. Antibacksliding requirements are satisfied because the previous permit did not include effluent limitations for cyanide.

(e) Immediate Compliance Feasible. With insufficient data to determine the distribution of the data set or to calculate a mean and standard deviation, feasibility to comply with final effluent limitations may be determined by comparing the MEC (3.7 µg/L) to the AMEL (21 µg/L) and the MDEL (42 µg/L). Based on this comparison, the Regional Water Board concludes that immediate compliance with the WQBELs for cyanide is feasible.

(8) Dioxin – TEQ

(a) WQC. The Basin Plan narrative WQO for bioaccumulative substances states:

> *Many pollutants can accumulate on particulates, in sediments, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.*

Because it is the consensus of the scientific community that dioxins and furans associate with particulates, accumulate in sediments, and bioaccumulate in the fatty tissue of fish and other organisms, the Basin Plan's narrative bioaccumulation WQO applies to these pollutants. Elevated levels of dioxins and furans in fish tissue in San Francisco Bay demonstrate that the narrative bioaccumulation WQO is not being met. USEPA has therefore included Carquinez Strait as impaired by dioxin and furan compounds in the current 303(d) listing of receiving waters where WQOs are not being met after imposition of applicable technology-based requirements.

The CTR establishes a numeric WQO for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD) of 1.4×10^{-8} µg/L for the protection of human health,

when aquatic organisms are consumed. When the CTR was promulgated, USEPA stated its support of the regulation of other dioxin and dioxin-like compounds through the use of toxicity equivalencies (TEQs) in NPDES permits. For California waters, USEPA stated specifically, "if the discharge of dioxin or dioxin-like compounds has Reasonable Potential to cause or contribute to a violation of a narrative criterion, numeric WQBELs for dioxin or dioxin-like compounds should be included in NPDES permits and should be expressed using a TEQ scheme." [65 Fed. Reg. 31682, 31695 (2000)] This procedure, developed by the World Health Organization in 1998, uses a set of toxicity equivalency factors (TEFs) to convert the concentration of any congener of dioxin or furan into an equivalent concentration of 2,3,7,8-TCDD.

To determine if the Plant's discharge of dioxin-TEQ has Reasonable Potential to cause or contribute to a violation of the Basin Plan's narrative bioaccumulation WQO, Regional Water Board staff used TEFs to express the measured concentrations of 16 dioxin congeners in effluent and background samples as a toxicity-weighted concentration equivalent to 2,3,7,8-TCDD. Regional Water Board staff also incorporated bioaccumulation equivalency factors (BEFs) USEPA developed for the Great Lakes System to account for differing bioaccumulation rates among dioxin congeners in the food web (40 CFR 132, Appendix F). USEPA supports the use of these BEFs beyond the Great Lakes System, stating, "…EPA believes that national bioaccumulation factors are broadly applicable to sites throughout the United States and can be applied to achieve an acceptable degree of accuracy when estimating bioaccumulation potential at most sites." The resulting "equivalent" concentrations were then compared to the CTR numeric criterion for 2,3,7,8-TCDD (1.4×10^{-8} µg/L), thus translating the narrative bioaccumulative objective into a numeric criterion. This method for establishing a WQBEL where no numeric criterion or objective is established is pursuant to 40 CFR Section 122.44(d)(1)(vi).

(b) RPA Results. This Order establishes effluent limitations for dioxin-TEQ because the background concentration (5.3×10^{-8} µg/L) exceeds the translated Basin Plan narrative objective (the CTR numeric water quality criterion for 2,3,7,8-TCDD, 1.4×10^{-8} µg/L), and dioxin-TEQ was detected in the effluent, demonstrating Reasonable Potential by Trigger 2.

(c) WQBELs. WQBELs for dioxin-TEQ, calculated using SIP procedures and the CTR WQC for 2,3,7,8-TCDD (with a default CV of 0.60 and no dilution credit), are an AMEL of 1.4×10^{-8} µg/L and an MDEL of 2.8×10^{-8} µg/L. Dilution credit is not granted in calculating WQBELs for dioxin-TEQ because dioxin-TEQ is a persistent, bioaccumulative pollutant on the 303(d) list for Carquinez Strait.

(d) Antibacksliding. Antibacksliding requirements are satisfied because the previous permit did not include effluent limitations for dioxin-TEQ.

(e) Immediate Compliance Feasible. The Discharger's Feasibility Study, dated March 20, 2009, asserts that the Plant cannot immediately comply with the WQBELS for dioxin-TEQ. That study, however, did not consider BEFs. With

insufficient data to determine the distribution of the data set or to calculate a mean and standard deviation, feasibility to comply with effluent limitations may be determined by comparing the MEC (9.5×10^{-12} µg/L) to the AMEL (1.4×10^{-8} µg/L) and the MDEL (2.8×10^{-8} µg/L). The MEC does not exceed the WQBELs; therefore, the Regional Water Board concludes that the Discharger can comply with the final effluent limitations for dioxin-TEQ.

(9) Bis(2-Ethylhexyl)Phthalate.

(a) Bis(2-Ethylhexyl)Phthalate WQC. The most stringent applicable WQC for bis(2-ethylhexyl)phthalate is the CTR criterion for protection of human health of 5.9 µg/L.

(b) RPA Results. This Order establishes effluent limitations for bis(2-ethylhexyl)phthalate because the MEC of 6.9 µg/L exceeds the applicable WQC for this pollutant, demonstrating Reasonable Potential by Trigger 1.

(c) Bis(2-Ethylhexyl)Phthalate WQBELs. WQBELs for bis(2-ethylhexyl)-phthalate, calculated according to SIP procedures (with a default CV of 0.60 and a dilution credit (D) of 9), are an AMEL of 53 µg/L and an MDEL of 110 µg/L.

(d) Antibacksliding. Antibacksliding requirements are satisfied because the WQBELs for bis(2-ethylhexyl)phthalate are the same as those of the previous permit.

(e) Immediate Compliance Feasible. With insufficient data to determine the distribution of the data set or to calculate a mean and standard deviation, feasibility to comply with final effluent limitations may be determined by comparing the MEC (6.9 µg/L) to the AMEL (53 µg/L) and the MDEL (106 µg/L). Based on this comparison, the Regional Water Board concludes that immediate compliance with the WQBELs for bis(2-ethylhexyl)phthalate is feasible.

(10) 4,4-DDD

(a) 4,4-DDD WQC. The most stringent applicable WQC for 4,4-DDD is the CTR criterion for protection of human health, 0.00084 µg/L.

(b) RPA Results. This Order establishes effluent limitations for 4,4-DDD because the MEC of 0.0028 µg/L exceeds the applicable WQC for this pollutant, demonstrating Reasonable Potential by Trigger 1.

(c) 4,4-DDD WQBELs. WQBELs for 4,4-DDD, calculated according to SIP procedures (with a default CV of 0.6 and no dilution credit), are an AMEL of 0.00084 µg/L and an MDEL of 0.0017 µg/L. Credit for dilution was not granted because 4,4-DDD is persistent and bioaccumulative. Moreover, it is a breakdown product of 4,4-DDT, which is on the 303(d) list for Carquinez Strait.

(d) Antibacksliding. Antibacksliding requirements are satisfied because the previous permit did not include final effluent limitations for 4,4-DDD.

(e) Immediate Compliance. With insufficient data to determine the distribution of the data set or to calculate a mean and standard deviation, feasibility to comply with final effluent limitations may be determined by comparing the MEC (0.0028 µg/L) to the AMEL (0.00084 µg/L) and the MDEL (0.0017 µg/L). Based on this comparison, the Regional Water Board concludes that immediate compliance with the WQBELs for 4,4-DDD may be infeasible. However, the ML for 4,4-DDD is 0.05 µg/L, and all available effluent data (including the MEC) are below this ML. Therefore, no past effluent sample would have resulted in a violation as defined by SIP section 2.4.5.

e. Effluent Limit Calculations

The following table shows the WQBEL calculations for arsenic, cadmium, copper, lead, selenium, silver, cyanide, dioxin-TEQ, bis(2-ethylhexyl)phthalate, and 4,4-DDD.

Table F-11. Effluent Limit Calculations

PRIORITY POLLUTANTS	Arsenic	Cadmium	Copper	Lead	Selenium	Silver	Cyanide	Dioxin-TEQ	Bis(2-ethylhexyl) phthalate	4,4-DDD
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Basis and Criteria type	BP & CTR SW Aq Life	BP FW Aquatic Life	Basin Plan SSO	BP & CTR FW Aquatic Life	NTR Aquatic Life	BP & CTR SW Aquatic Life	BP SSO	CTR HH	CTR HH	CTR HH
Criteria -Acute	69.0	3.0	-----	61	20	2.2	-----	-----	-----	-----
Criteria -Chronic	36.0	0.95	-----	2.4	5	-----	-----	-----	-----	-----
SSO Criteria -Acute	-----	-----	3.9	-----	-----	-----	9.4	-----	-----	-----
SSO Criteria -Chronic	-----	-----	2.5	-----	-----	-----	2.9	-----	-----	-----
Water Effects ratio (WER)	1	1	2.4	1	1	1	1	1	1	1
Lowest WQO	36.0	0.95	5.9	2.4	5.0	2.2	2.9	1.4E-08	5.9	0.00084
Site Specific Translator - MDEL	-----	-----	0.66	-----	-----	-----	-----	-----	-----	-----
Site Specific Translator - AMEL	-----	-----	0.38	-----	-----	-----	-----	-----	-----	-----
Dilution Factor (D) (if applicable)	9	9	9	9	9	9	9	0	9	0
No. of samples per month	4	4	4	4	4	4	4	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	Y	Y	Y	Y	N	N	N
HH criteria analysis required? (Y/N)	N	N	N	N	N	N	Y	Y	Y	Y
Applicable Acute WQO	69	3	14.2	61	20	2.2	9.4			
Applicable Chronic WQO	36	1	15.8	2.4	5		2.9			
HH criteria							220000.00	1.4E-08	5.9	0.00084
Background (Maximum Conc for Aquatic Life calc)	2.5	0.13	2.55	0.804	0.39	0.052	0.40			
Background (Average Conc for Human Health calc)	-----	-----	-----	-----	-----	-----	0.40	7.1E-08	21.0	1.1E-04
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N	N	N	N	N	N	N	Y	N	Y
ECA acute	668	29	119	607	196	22	90			
ECA chronic	338	8.3	135	17	46	o Chronic WQ	25			
ECA HH							2199996.4	1.4.E-08	5.9	0.00084
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N	N	Y	N	N	Y	Y	Y	Y
Avg of effluent data points	14.0	1.0	6.2	2.0	4.4	0.74	1.1	4.9E-07	2.7	0.0072
Std Dev of effluent data points	13.6	0.9	4.7	1.7	3.0	0.59	1.3	6.8E-07	3.4	0.012
CV calculated	0.97	0.92	0.77	N/A	0.69	0.79	N/A	N/A	N/A	N/A
CV (Selected) - Final	0.97	0.92	0.77	0.6	0.69	0.79	0.60	0.60	0.60	0.60
ECA acute mult99	0.21	0.22	0.26	0.32	0.28	0.25	0.32			
ECA chronic mult99	0.38	0.40	0.45	0.53	0.49	0.44	0.53			
LTA acute	140	6.5	30.8	195.0	56.0	5.5	29.0			
LTA chronic	129	3.3	61.1	8.8	22.6		13.4			
minimum of LTAs	129	3.3	30.8	8.8	22.6	5.5	13.4			
AMEL mult95	1.9	1.9	1.7	1.6	1.6	1.7	1.6	1.6	1.6	1.6
MDEL mult99	4.8	4.5	3.9	3.1	3.5	4.0	3.1	3.1	3.1	3.1
AMEL (aq life)	247	6.2	52.9	13.7	37.0	9.6	20.8			
MDEL(aq life)	615	15	118.9	27.5	79.2	21.9	41.7			
MDEL/AMEL Multiplier	2.5	2.4	2.25	2.01	2.14	2.28	2.01	2.01	2.01	2.01
AMEL (human hlth)		-----					2199996.4	1.4.E-08	5.9	0.00084
MDEL (human hlth)		-----	-----	-----	-----		4413608.9	2.8.E-08	12	0.0017
minimum of AMEL for Aq. life vs HH	247	6.2	52.9	14	37.0	9.6	20.8	1.4.E-08	5.9	0.00084
minimum of MDEL for Aq. Life vs HH	615	15	118.9	27	79.2	22	41.7	2.8.E-08	12	0.0017
Current limit in permit (30-day average)	-----	4.1	-----	-----	-----	4.6	-----	-----	53	-----
Current limit in permit (daily)	-----	8.3	37 (Interim)	-----	46 (Interim)	10.4	-----	-----	106	-----
Final limit - AMEL	247	6.2	53	14	37	9.6	21	1.4.E-08	53	0.00084
Final limit - MDEL	615	15	119	27	79	22	42	2.8.E-08	106	0.0017
Max Effl Conc (MEC)	44	4.1	23	6.4	15	2.4	3.7	9.5.E-10		0.0045

5. Whole Effluent Acute Toxicity

a. Permit Requirements. This Order includes effluent limitations for whole effluent acute toxicity that are based on Basin Plan Table 4-3 and are unchanged from the previous permit. Compliance evaluation is based on 96-hour static-renewal bioassays. All bioassays shall be performed according to the USEPA-approved method in 40 CFR Part 136, currently *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water, 5th Edition.*

b. Compliance History. The Discharger's acute toxicity monitoring data show that bioassay results from September 2004 – December 2008 ranged from 90% to 100% survival as an 11-sample 90th percentile, and a minimum of 100% as an 11-sample median. There have been no acute toxicity effluent limitation violations.

c. **Ammonia Toxicity.** If the Discharger can demonstrate to the satisfaction of the Executive Officer that toxicity exceeding limitations in this Order is caused by ammonia, and that the ammonia in the discharge is not adversely impacting receiving water quality or beneficial uses, then such toxicity does not constitute a violation of the effluent limitations for whole effluent toxicity. If ammonia toxicity is verified by a Toxicity Identification Evaluation (TIE), the Discharger may use an adjusted protocol approved by the Executive Officer for routine bioassay testing.

6. Whole Effluent Chronic Toxicity

a. **Permit Requirements**. This Order includes requirements for chronic toxicity monitoring to ensure attainment of the Basin Plan narrative toxicity objective. This permit includes monitoring "triggers" that when exceeded, initiate accelerated monitoring requirements, including in some circumstances a chronic toxicity evaluation (TRE). These permit requirements for chronic toxicity are consistent with CTR and SIP requirements.

b. **Chronic Toxicity Triggers**. This Order includes a chronic toxicity trigger of a single sample maximum of 10 chronic toxicity units (TUc). The trigger is consistent with Basin Plan Table 4-5 because this Order requires the Discharger to monitor chronic toxicity semi-annually.

c. **Monitoring History**. The Discharger's chronic toxicity monitoring data from March 2005 through September 2008 show that the seven chronic toxicity results ranged from < 1 TUc to 3.9 TUc. Screening tests conducted during the term of the previous permit indicate that the embryo development test with the mussel *Mytilus galloprovinciales* was the most sensitive species in the first two rounds of testing and the germination and growth test with kelp *Macrocystis pyrifera* was the most sensitive species in the third round of testing.

d. **Screening Phase Study**. The Discharger is required to conduct a chronic toxicity screening phase study, as described in Monitoring and Reporting Program (MRP) Appendix E-1 (Attachment E), prior to the next permit issuance.

D. Anti-backsliding and Antidegradation

1. Effluent Limitations Retained from Order No. R2-2004-0042. Limitations for the following parameters for Discharge Point 001 are retained and are unchanged from the previous permit:

- TSS
- Oil and grease
- pH
- Acute toxicity
- Bis(2-ethylhexyl)phthalate

Retaining effluent limitations for these parameters in this Order ensures that these limitations are at least as stringent as those in the previous permit, meeting applicable CWA anti-

backsliding requirements. Retaining effluent limitations for these parameters also ensures that the existing receiving water quality will not be degraded in terms of these parameters.

2. **New Effluent Limitations**. This Order established the following new effluent limitations.

   - Arsenic
   - Lead
   - Cyanide
   - Selenium
   - Dioxin-TEQ
   - 4,4-DDD

   The establishment of new effluent limitations for these pollutants effectively creates limitations that are more stringent than in the previous permit, therefore meeting applicable anti-backsliding requirements and ensuring that the existing quality of the receiving water will not be degraded in terms of these parameters. The selenium limits in this Order replace the interim limit in the previous permit.

3. **Effluent Limitations Not Retained from Previous Permit.** Limitations for settleable solids, chromium (VI) and mercury at Discharge Point 001 are not retained by this Order. The settleable solids limit is not retained because the Basin Plan has been amended to remove those limits for treatment facilities, and there is no need to retain the limit for any other reason because Discharge 001 has been non-detect for settleable solids for the past 5 years. The chromium (VI) limit is not retained because the RPA showed that discharges from the Plant no longer demonstrate Reasonable Potential to cause or contribute to exceedances of the chromium (VI) water quality criteria. This is consistent with the anti-backsliding provisions of State Water Board Order WQ 2001-16. San Francisco Bay mercury discharges are now regulated by Regional Water Board Order No. R2-2007-0077, which became effective March 1, 2008. Order No. R2-2007-0077 is a Watershed Permit that implements the San Francisco Bay Mercury TMDL. The Plant's discharge of mercury is therefore regulated by another means.

4. **Effluent Limitations Higher Than in Previous Permit.** Limitations for copper at Discharge Point 001 are higher than in the previous permit.

   - COD
   - Silver
   - Cadmium

   The previous permit contained a COD MDEL limit of 52 mg/L, which was increased to 74 ppm. In 2009, the Contra Costa Water District imposed mandatory water conservation requirements on Rhodia, including a 5% decrease in water usage from historical rates. Since organic pollutants should not be present in the Plant's process wastewater and since COD comes into the Plant with potable water, the COD limit was increased to reflect the mandatory water rationing. The Regional Water Board used Best Professional Judgment (BPJ) to establish the Discharger's site-specific COD limit in the previous permit, pursuant to 40 C.F.R. § 125.3. With conventional pollutants, such as COD, best conventional pollution control technology (BCT) and best practical control technology currently available (BPT)

applies. Process changes, such as the mandated water reduction imposed by the Contra Costa Water District, may be taken into account in establishing BCT and BPT. Increasing the COD limits does not violate anti-backsliding requirements because backsliding is allowed if there has been a material and substantial alteration or addition to a permitted facility or if there are events that a facility has no control (see 40 C.F.R. § 122.44(l)). In the case of mandatory water rationing, Rhodia falls within the exception to backsliding and that a higher limit is justified.

The previous permit contained an MDEL for silver of 10.4 µg/L, and an AMEL of 4.2 µg/L. The previous permit also contained an MDEL for cadmium of 8.3 µg/L and an AMEL of 6.2 µg/L. Due to new information (i.e., new hardness data), the Regional Water Board has determined that the newly calculated limitations for these parameters are consistent with exceptions to the backsliding prohibition expressed at CWA section 402(o)(2)(B).

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Receiving water limitations are retained from the previous permit and reflect applicable water quality standards from the Basin Plan.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The MRP (Attachment E) establishes monitoring and reporting requirements to implement State and federal requirements.

The principal purposes of a monitoring and reporting program by a discharger are to:

- Document compliance with waste discharge requirements and prohibitions established by the Regional Water Board,
- Facilitate self-policing by the discharger in the prevention and abatement of pollution arising from waste discharge,
- Develop or assist in the development of limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and
- Prepare water and wastewater quality inventories.

The MRP is a standard requirement in almost all NPDES permits issued by the Regional Water Board, including this Order. It contains definitions of terms, specifies general sampling and analytical protocols, and sets out requirements for reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the CWC, and State and Regional Water Board policies. The MRP also defines the sampling stations and frequency, the pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all parameters for which effluent limitations are specified. Monitoring for additional constituents, for which no effluent limitations are established, is also required to provide data for future completion of RPAs. The following provides the rationale for the monitoring and reporting requirements contained in the Plant's MRP.

A. Influent Monitoring

Not Applicable.

B. Effluent Monitoring

The MRP retains most effluent monitoring requirements from the previous permit. Changes in effluent monitoring at E-001 are summarized below.

- Monthly routine monitoring for chromium (VI), nickel, 4,4-DDE, and dieldrin is no longer required because these pollutants no longer demonstrate Reasonable Potential. Monthly monitoring for mercury is no longer required because the discharge of mercury from the Plant is now regulated by Regional Water Board Order No. R2-2007-0077.

- Routine effluent monitoring for arsenic, lead, cyanide, and 4,4-DDD (those priority toxic pollutants with effluent limitations established by this Order). Monitoring for all other priority toxic pollutants must be conducted in accordance with frequency and methods described in the Regional Standard Provisions (Attachment G).

- Monitoring for total ammonia is required to characterize the effluent and to generate ammonia effluent data for future RPA.

Most effluent monitoring requirements at E-002 are retained from the previous permit. Monitoring requirements for metals and ammonia, and the full suite of CTR pollutants are required to better characterize storm water discharges.

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Monthly 96-hour bioassay testing is required at E-001 to demonstrate compliance with the effluent limitation for acute toxicity.

2. **Chronic Toxicity.** Chronic whole effluent toxicity testing is required at E-001 to demonstrate compliance with the Basin Plan's narrative toxicity objective.

D. Reclamation Monitoring Requirements

Not Applicable.

E. Receiving Water Monitoring

Receiving water monitoring requirements at RSW-001 are retained from the previous permit.

On April 15, 1992, the Regional Water Board adopted Resolution No. 92-043 directing the Executive Officer to implement the Regional Monitoring Program for Trace Substances (RMP) for San Francisco Bay. Subsequent to a public hearing and various meetings, under the authority of CWC section 13267, Regional Water Board staff required major permit holders in this Region to report on the water quality of the estuary. These permit holders responded to this request by participating in a collaborative effort through the RMP. This Order specifies that the Discharger shall continue to participate in the RMP, which involves data collection on pollutants and toxicity in water, sediment, and biota of the estuary. The Discharger's participation and support

of the RMP is used in consideration of the level of specific receiving water monitoring required by this Order.

F. Other Monitoring Requirements

1. **Rainfall**. The requirement to record rainfall at the nearest official recording Nation Weather Service Station is retained from the previous permit.

2. **Wastewater Treatment Process Solids**. The requirement to record and report the total volume of solids and dewatered sludge, including the final disposition of the solids, is retained from the previous permit.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions (Provision VI.A)

Standard Provisions, which in accordance with 40 CFR 122.41and 122.42 apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D of this Order. The Discharger must comply with all standard provisions and with those additional conditions that apply under 40 CFR 122.42.

40 CFR 122.41(a)(1) and (b) through (n) establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. The Regional Standard Provisions in Attachment G modify and expand on the Federal Standard Provisions in this way. In accordance with section 123.25, this Order omits federal conditions that that address enforcement authority specified in sections 122.41(j)(5) and (k)(2) because the enforcement authority under the CWC is more stringent. In lieu of these conditions, this Order incorporates by reference CWC section 13387(e).

B. Monitoring and Reporting Requirements (Provision VI.B)

The Discharger is required to monitor the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are contained in the MRP (Attachment E) and Regional Standard Provisions (Attachment G). This provision requires compliance with these documents and is based on 40 CFR 122.63.

C. Special Provisions (Provision VI.C)

1. Reopener Provisions

These provisions are based on 40 CFR 123 and allow modification of this Order and its effluent limitations as necessary in response to updated WQOs that may be established in the future and other circumstances.

2. Special Studies and Additional Monitoring Requirements

a. Effluent Characterization Study: This Order does not include effluent limitations for constituents addressed in the Regional Standard Provisions that do not demonstrate Reasonable Potential, but this provision requires the Discharger to continue monitoring

for these pollutants as described in the Regional Standard Provisions and as specified in the MRP. If concentrations of these constituents increase significantly, the Discharger is required to investigate the source of such increases and establish remedial measures if the increases result in Reasonable Potential to cause or contribute to an excursion above the applicable WQOs. This provision is based on the Basin Plan and the SIP and is retained from the previous Order.

b. Ambient Background Receiving Water Study: This provision is based on the Basin Plan, the SIP, and the Regional Water Board Standard Provisions for priority pollutant monitoring. As indicated in this Order, this requirement may be met by participating in a collaborative study.

c. Optional Mass Offset Plan: This option is provided to encourage the Discharger to further implement aggressive reduction of mass loads to San Francisco Bay. If the Discharger wishes to pursue a mass offset program, a mass offset plan for reducing 303(d)-listed pollutants to the same receiving water needs to be submitted for Regional Water Board approval. The Regional Water Board may consider any proposed mass offset plan and amend this Order accordingly.

3. Best Management Practices and Pollution Minimization Program

a. This provision for a Pollutant Minimization Program is based on Basin Plan Chapter 4, Section 4.13.2 and SIP Chapter 2, Section 2.4.5.

b. The provision to update and submit a Best Management Practices (BMP) each year is retained from the previous permit.

4. Storm Water Pollution Prevention Plan (SWPPP)

The requirement to annually update and submit a Storm Water Pollution Prevention Plan (SWPPP), and a storm water report is retained from the previous permit. It applies to storm water discharges at Discharge Point 002 and is generally consistent with the SWPPP requirements of the State Water Board's state-wide NPDES permit for storm water discharges associated with industrial activities (NPDES General Permit CAS000001).

5. Copper Action Plan

The Basin Plan's site-specific objectives (SSOs) for copper in San Francisco Bay require a Copper Action Plan for source control as part of SSO implementation. The Regional Water Board adopted these copper SSOs through Regional Water Board Resolution No. R2-2007-0042, which the State Water Board approved on January 15, 2008 and USEPA approved on January 6, 2009. The Basin Plan requires the Copper Action Plan to ensure compliance with antidegradation policies. This Order requires the Discharger, through the Copper Action Plan, to implement monitoring and surveillance, pretreatment, source control, and pollution prevention to ensure attainment of the copper SSOs and the protection of water quality and beneficial uses.

6. Cyanide Action Plan

The Basin Plan's SSOs for cyanide in San Francisco Bay require a Cyanide Action Plan for source control as part of SSO implementation. The Regional Water Board adopted these site-specific objectives through Regional Water Board Order No. R2-2006-0086 and USEPA approved the objectives on July 22, 2008. The Basin Plan requires the Cyanide Action Plan to ensure compliance with antidegradation policies. This Order requires the Discharger, through the Cyanide Action Plan, to implement monitoring and surveillance, pretreatment, source control, and pollution prevention to ensure the attainment of the SSOs and the protection of water quality and beneficial uses.

7. Best Technology Study

Pursuant to 40 CFR 125.3, the Regional Water Board must develop technology-based effluent limitations for the Plant based on best professional judgment (BPJ) since USEPA has not promulgated effluent limitations guidelines for this type of industry. USEPA assisted the Regional Water Board in developing BPJ-based best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT) effluent limitations 25 years ago, as set forth in a September 12, 1984, report titled, *Final Development of BAT and BCT Permit Limitations for the Stauffer Chemical Company*. (The Stauffer Chemical Company was the operating company prior to Rhone-Poulenc and Rhodia.) This provision requires the Discharger to update this study to allow the Regional Water Board to review and update, if necessary, the appropriate technology-based effluent limitations.

VIII. PUBLIC PARTICIPATION

The Regional Water Board is considering the issuance of Waste Discharge Requirements (WDRs) that will serve as an NPDES permit for the Rhodia Inc., Martinez Plant. As a step in the WDR adoption process, the Regional Water Board developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the Contra Costa Times**.**

B. Written Comments

Staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the attention of Adrienne Miller at the Regional Water Board at the address on the cover page of this Order. To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on **January 21, 2010**.

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: **March 10, 2010**
Time: 9:00 am
Location: Elihu Harris State Office Building
1515 Clay Street, 1st Floor Auditorium
Oakland, CA 94612

Contact: Adrienne Miller, (510) 622-2415, email admiller@waterboards.ca.gov

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Dates and venues may change. The Regional Water Board Web address is http://www.waterboards.ca.gov/sanfranciscobay, where one can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The Report of Waste Discharge (permit application), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., except from noon to 1:00 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling 510-622-2300.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding these WDRs and NPDES permit should contact the Regional Water Board, reference the Rhodia Inc., Martinez Plant, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this Order should be directed to Adrienne Miller at 510-622-2415 (e-mail at ADMiller@waterboards.ca.gov) or Bill Johnson at 510-622-2354 (e-mail at WJohnson@waterboards.ca.gov).

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ATTACHMENT G

REGIONAL STANDARD PROVISIONS, AND MONITORING AND REPORTING REQUIREMENTS
(SUPPLEMENT TO ATTACHMENT D)

For

NPDES WASTEWATER DISCHARGE PERMITS

March 2010

Table of Contents

I. STANDARD PROVISIONS - PERMIT COMPLIANCE G-1
- A. Duty to Comply G-1
- B. Need to Halt or Reduce Activity Not a Defense G-1
- C. Duty to Mitigate G-1
  - 1. Contingency Plan G-1
  - 2. Spill Prevention Plan G-2
- D. Proper Operation & Maintenance G-2
  - 1. Operation and Maintenance (O&M) Manual G-2
  - 2. Wastewater Facilities Status Report G-2
  - 3. Proper Supervision and Operation of Publicly Owned Treatment Works (POTWs) G-3
- E. Property Rights G-3
- F. Inspection and Entry G-3
- G. Bypass G-3
- H. Upset G-3
- I. Other G-3
- J. Storm Water G-3
  - 1. Storm Water Pollution Prevention Plan (SWPP Plan) G-3
  - 2. Source Identification G-4
  - 3. Storm Water Management Controls G-5
  - 4. Annual Verification of SWPP Plan G-6
- K. Biosolids Management G-6

II. STANDARD PROVISIONS – PERMIT ACTION G-7

III. STANDARD PROVISIONS – MONITORING G-7
- A. Sampling and Analyses G-7
  - 1. Use of Certified Laboratories G-7
  - 2. Use of Appropriate Minimum Levels G-7
  - 3. Frequency of Monitoring G-7
- B. Biosolids Monitoring G-10
  - 1. Biosolids Monitoring Frequency G-10
  - 2. Biosolids Pollutants to Monitor G-11
- C. Standard Observations G-11
  - 1. Receiving Water Observations G-11
  - 2. Wastewater Effluent Observations G-11
  - 3. Beach and Shoreline Observations G-12
  - 4. Land Retention or Disposal Area Observations G-12
  - 5. Periphery of Waste Treatment and/or Disposal Facilities Observations G-12

IV. STANDARD PROVISIONS – RECORDS G-12
- A. Records to be Maintained G-12
- B. Records of monitoring information shall include G-13
  - 1. Analytical Information G-13
  - 2. Flow Monitoring Data G-13
  - 3. Wastewater Treatment Process Solids G-13
  - 4. Disinfection Process G-13

5. Treatment Process Bypasses G-14
6. Treatment Facility Overflows G-14
V. STANDARD PROVISIONS – REPORTING G-14
A. Duty to Provide Information G-14
B. Signatory and Certification Requirements G-14
C. Monitoring Reports G-15
1. Self Monitoring Reports G-15
D. Compliance Schedules G-19
E. Twenty-Four Hour Reporting G-19
1. Spill of Oil or Other Hazardous Material Reports G-19
2. Unauthorized Discharges from Municipal Wastewater Treatment Plants G-20
F. Planned Changes G-23
G. Anticipated Noncompliance G-23
H. Other Noncompliance G-23
I. Other Information G-23
VI. STANDARD PROVISIONS – ENFORCEMENT G-23
VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS G-23
VIII. DEFINITIONS – This section is an addition to Standard Provisions (Attachment D) G-23

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

REGIONAL STANDARD PROVISIONS, AND MONITORING AND REPORTING REQUIREMENTS (SUPPLEMENT TO ATTACHMENT D)

FOR

NPDES WASTEWATER DISCHARGE PERMITS

APPLICABILITY

This document applies to dischargers covered by a National Pollutant Discharge Elimination System (NPDES) permit. This document does not apply to Municipal Separate Storm Sewer System (MS4) NPDES permits.

The purpose of this document is to supplement the requirements of Attachment D, Standard Provisions. The requirements in this supplemental document are designed to ensure permit compliance through preventative planning, monitoring, recordkeeping, and reporting. In addition, this document requires proper characterization of issues as they arise, and timely and full responses to problems encountered. To provide clarity on which sections of Attachment D this document supplements, this document is arranged in the same format as Attachment D.

I. STANDARD PROVISIONS - PERMIT COMPLIANCE

A. Duty to Comply – Not Supplemented

B. Need to Halt or Reduce Activity Not a Defense – Not Supplemented

C. Duty to Mitigate – This supplements I.C. of Standard Provisions (Attachment D)

1. **Contingency Plan -** The Discharger shall maintain a Contingency Plan as originally required by Regional Water Board Resolution 74-10 and as prudent in accordance with current municipal facility emergency planning. The Contingency Plan shall describe procedures to ensure that existing facilities remain in, or are rapidly returned to, operation in the event of a process failure or emergency incident, such as employee strike, strike by suppliers of chemicals or maintenance services, power outage, vandalism, earthquake, or fire. The Discharger may combine the Contingency Plan and Spill Prevention Plan into one document. Discharge in violation of the permit where the Discharger has failed to develop and implement a Contingency Plan as described below will be the basis for considering the discharge a willful and negligent violation of the permit pursuant to California Water Code Section 13387. The Contingency Plan shall, at a minimum, contain the provisions of a. through g. below.

    a. Provision of personnel for continued operation and maintenance of sewerage facilities during employee strikes or strikes against contractors providing services.

b. Maintenance of adequate chemicals or other supplies and spare parts necessary for continued operations of sewerage facilities.

c. Provisions of emergency standby power.

d. Protection against vandalism.

e. Expeditious action to repair failures of, or damage to, equipment and sewer lines.

f. Report of spills and discharges of untreated or inadequately treated wastes, including measures taken to clean up the effects of such discharges.

g. Programs for maintenance, replacement, and surveillance of physical condition of equipment, facilities, and sewer lines.

2. **Spill Prevention Plan -** The Discharger shall maintain a Spill Prevention Plan to prevent accidental discharges and minimize the effects of such events. The Spill Prevention Plan shall:

   a. Identify the possible sources of accidental discharge, untreated or partially treated waste bypass, and polluted drainage;

   b. Evaluate the effectiveness of present facilities and procedures, and state when they became operational; and

   c. Predict the effectiveness of the proposed facilities and procedures, and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

   This Regional Water Board, after review of the Contingency and Spill Prevention Plans or their updated revisions, may establish conditions it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions may be incorporated as part of the permit upon notice to the Discharger.

D. Proper Operation & Maintenance – This supplements I.D of Standard Provisions (Attachment D)

1. **Operation and Maintenance (O&M) Manual -** The Discharger shall maintain an O&M Manual to provide the plant and regulatory personnel with a source of information describing all equipment, recommended operational strategies, process control monitoring, and maintenance activities. To remain a useful and relevant document, the O&M Manual shall be kept updated to reflect significant changes in treatment facility equipment and operational practices. The O&M Manual shall be maintained in usable condition and be available for reference and use by all relevant personnel and Regional Water Board staff.

2. **Wastewater Facilities Status Report -** The Discharger shall regularly review, revise, or update, as necessary, its Wastewater Facilities Status Report. This report shall document how the Discharger operates and maintains its wastewater collection, treatment, and disposal facilities to ensure that all facilities are adequately staffed, supervised, financed, operated,

maintained, repaired, and upgraded as necessary to provide adequate and reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the Discharger's service responsibilities.

3. **Proper Supervision and Operation of Publicly Owned Treatment Works (POTWs) -** POTWs shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Division 4, Chapter 14, Title 23 of the California Code of Regulations.

E. Property Rights – Not Supplemented

F. Inspection and Entry – Not Supplemented

G. Bypass – Not Supplemented

H. Upset – Not Supplemented

I. Other – This section is an addition to Standard Provisions (Attachment D)

1. Neither the treatment nor the discharge of pollutants shall create pollution, contamination, or nuisance as defined by California Water Code Section 13050.

2. Collection, treatment, storage, and disposal systems shall be operated in a manner that precludes public contact with wastewater, except in cases where excluding the public is infeasible, such as private property. If public contact with wastewater could reasonably occur on public property, warning signs shall be posted.

3. If the Discharger submits a timely and complete Report of Waste Discharge for permit reissuance, this permit continues in force and effect until a new permit is issued or the Regional Water Board rescinds the permit.

J. Storm Water – This section is an addition to Standard Provisions (Attachment D)

These provisions apply to facilities that do not direct all storm water flows from the facility to the wastewater treatment plant headworks.

1. **Storm Water Pollution Prevention Plan (SWPP Plan)**

   The SWPP Plan shall be designed in accordance with good engineering practices and shall address the following objectives:

   a. To identify pollutant sources that may affect the quality of storm water discharges; and

   b. To identify, assign, and implement control measures and management practices to reduce pollutants in storm water discharges.

   The SWPP Plan may be combined with the existing Spill Prevention Plan as required in accordance with Section C.2. The SWPP Plan shall be retained on-site and made available upon request of a representative of the Regional Water Board.

2. Source Identification

The SWPP Plan shall provide a description of potential sources that may be expected to add significant quantities of pollutants to storm water discharges, or may result in non-storm water discharges from the facility. The SWPP Plan shall include, at a minimum, the following items:

a. A topographical map (or other acceptable map if a topographical map is unavailable), extending one-quarter mile beyond the property boundaries of the facility, showing the wastewater treatment facility process areas, surface water bodies (including springs and wells), and discharge point(s) where the facility's storm water discharges to a municipal storm drain system or other points of discharge to waters of the State. The requirements of this paragraph may be included in the site map required under the following paragraph if appropriate.

b. A site map showing the following:

   1) Storm water conveyance, drainage, and discharge structures;

   2) An outline of the storm water drainage areas for each storm water discharge point;

   3) Paved areas and buildings;

   4) Areas of actual or potential pollutant contact with storm water or release to storm water, including but not limited to outdoor storage and process areas; material loading, unloading, and access areas; and waste treatment, storage, and disposal areas;

   5) Location of existing storm water structural control measures (i.e., berms, coverings, etc.);

   6) Surface water locations, including springs and wetlands; and

   7) Vehicle service areas.

c. A narrative description of the following:

   1) Wastewater treatment process activity areas;

   2) Materials, equipment, and vehicle management practices employed to minimize contact of significant materials of concern with storm water discharges;

   3) Material storage, loading, unloading, and access areas;

   4) Existing structural and non-structural control measures (if any) to reduce pollutants in storm water discharges; and

   5) Methods of on-site storage and disposal of significant materials.

d. A list of pollutants that have a reasonable potential to be present in storm water discharges in significant quantities.

3. Storm Water Management Controls

The SWPP Plan shall describe the storm water management controls appropriate for the facility and a time schedule for fully implementing such controls. The appropriateness and priorities of controls in the SWPP Plan shall reflect identified potential sources of pollutants. The description of storm water management controls to be implemented shall include, as appropriate:

a. Storm water pollution prevention personnel

Identify specific individuals (and job titles) that are responsible for developing, implementing, and reviewing the SWPP Plan.

b. Good housekeeping

Good housekeeping requires the maintenance of clean, orderly facility areas that discharge storm water. Material handling areas shall be inspected and cleaned to reduce the potential for pollutants to enter the storm drain conveyance system.

c. Spill prevention and response

Identify areas where significant materials can spill into or otherwise enter storm water conveyance systems and their accompanying drainage points. Specific material handling procedures, storage requirements, and cleanup equipment and procedures shall be identified, as appropriate. The necessary equipment to implement a cleanup shall be available, and personnel shall be trained in proper response, containment, and cleanup of spills. Internal reporting procedures for spills of significant materials shall be established.

d. Source control

Source controls include, for example, elimination or reduction of the use of toxic pollutants, covering of pollutant source areas, sweeping of paved areas, containment of potential pollutants, labeling of all storm drain inlets with “No Dumping” signs, isolation or separation of industrial and non-industrial pollutant sources so that runoff from these areas does not mix, etc.

e. Storm water management practices

Storm water management practices are practices other than those that control the sources of pollutants. Such practices include treatment or conveyance structures, such as drop inlets, channels, retention and detention basins, treatment vaults, infiltration galleries, filters, oil/water separators, etc. Based on assessment of the potential of various sources to contribute pollutants to storm water discharges in significant quantities, additional storm water management practices to remove pollutants from storm water discharges shall be implemented and design criteria shall be described.

f. Sediment and erosion control

Measures to minimize erosion around the storm water drainage and discharge points, such as riprap, revegetation, slope stabilization, etc., shall be described.

g. Employee training

Employee training programs shall inform all personnel responsible for implementing the SWPP Plan. Training shall address spill response, good housekeeping, and material management practices. New employee and refresher training schedules shall be identified.

h. Inspections

All inspections shall be done by trained personnel. Material handling areas shall be inspected for evidence of, or the potential for, pollutants entering storm water discharges. A tracking or follow up procedure shall be used to ensure appropriate response has been taken in response to an inspection. Inspections and maintenance activities shall be documented and recorded. Inspection records shall be retained for five years.

i. Records

A tracking and follow-up procedure shall be described to ensure that adequate response and corrective actions have been taken in response to inspections.

4. Annual Verification of SWPP Plan

An annual facility inspection shall be conducted to verify that all elements of the SWPP Plan are accurate and up-to-date. The results of this review shall be reported in the Annual Report to the Regional Water Board described in Section V.C.f.

K. Biosolids Management – This section is an addition to Standard Provisions (Attachment D)

Biosolids must meet the following requirements prior to land application. The Discharger must either demonstrate compliance or, if it sends the biosolids to another party for further treatment or distribution, must give the recipient the information necessary to ensure compliance.

1. Exceptional quality biosolids meet the pollutant concentration limits in Table III of 40 CFR Part 503.13, Class A pathogen limits, and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8). Such biosolids do not have to be tracked further for compliance with general requirements (503.12) and management practices (503.14).

2. Biosolids used for agricultural land, forest, or reclamation shall meet the pollutant limits in Table I (ceiling concentrations) and Table II or Table III (cumulative loadings or pollutant concentration limits) of 503.13. They shall also meet the general requirements (503.12) and management practices (503.14) (if not exceptional quality biosolids) for Class A or Class B pathogen levels with associated access restrictions (503.32) and one of the 10 vector attraction reduction requirements in 503.33(b)(1)-(b)(10).

3. Biosolids used for lawn or home gardens must meet exceptional quality biosolids limits.

4. Biosolids sold or given away in a bag or other container must meet the pollutant limits in either Table III or Table IV (pollutant concentration limits or annual pollutant loading rate limits) of 503.13. If Table IV is used, a label or information sheet must be attached to the biosolids packing that explains Table IV (see 503.14). The biosolids must also meet the Class A pathogen limits and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8).

II. STANDARD PROVISIONS – PERMIT ACTION – Not Supplemented

III. STANDARD PROVISIONS – MONITORING

A. Sampling and Analyses – This section is a supplement to III.A and III.B of Standard Provisions (Attachment D)

1. Use of Certified Laboratories

Water and waste analyses shall be performed by a laboratory certified for these analyses in accordance with California Water Code Section 13176.

2. Use of Appropriate Minimum Levels

Table C lists the suggested analytical methods for the 126 priority pollutants and other toxic pollutants that should be used, unless a particular method or minimum level (ML) is required in the MRP.

For priority pollutant monitoring, when there is more than one ML value for a given substance, the Discharger may select any one of the analytical methods cited in Table C for compliance determination, or any other method described in 40 CFR part 136 or approved by USEPA (such as the 1600 series) if authorized by the Regional Water Board. However, the ML must be below the effluent limitation and water quality objective. If no ML value is below the effluent limitation and water quality objective, then the method must achieve an ML no greater than the lowest ML value indicated in Table C. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

3. Frequency of Monitoring

The minimum schedule of sampling analysis is specified in the MRP portion of the permit.

a. Timing of Sample Collection

1) The Discharger shall collect samples of influent on varying days selected at random and shall not include any plant recirculation or other sidestream wastes, unless otherwise stipulated by the MRP.

2) The Discharger shall collect samples of effluent on days coincident with influent sampling unless otherwise stipulated by the MRP or the Executive Officer. The Executive Officer may approve an alternative sampling plan if it is demonstrated to be representative of plant discharge flow and in compliance with all other permit requirements.

3) The Discharger shall collect grab samples of effluent during periods of day-time maximum peak effluent flows (or peak flows through secondary treatment units for facilities that recycle effluent flows).

4) Effluent sampling for conventional pollutants shall occur on at least one day of any multiple-day bioassay test the MRP requires. During the course of the test, on at least one day, the Discharger shall collect and retain samples of the discharge. In the event a bioassay test does not comply with permit limits, the Discharger shall analyze these retained samples for pollutants that could be toxic to aquatic life and for which it has effluent limits.

   i. The Discharger shall perform bioassay tests on final effluent samples; when chlorine is used for disinfection, bioassay tests shall be performed on effluent after chlorination-dechlorination; and

   ii. The Discharger shall analyze for total ammonia nitrogen and calculate the amount of un-ionized ammonia whenever test results fail to meet the percent survival specified in the permit.

b. Conditions Triggering Accelerated Monitoring

1) If the results from two consecutive samples of a constituent monitored in a 30-day period exceed the monthly average limit for any parameter (or if the required sampling frequency is once per month and the monthly sample exceeds the monthly average limit), the Discharger shall, within 24 hours after the results are received, increase its sampling frequency to daily until the results from the additional sampling show that the parameter is in compliance with the monthly average limit.

2) If any maximum daily limit is exceeded, the Discharger shall increase its sampling frequency to daily within 24 hours after the results are received that indicate the exceedance of the maximum daily limit until two samples collected on consecutive days show compliance with the maximum daily limit.

3) If final or intermediate results of an acute bioassay test indicate a violation or threatened violation (e.g., the percentage of surviving test organisms of any single acute bioassay test is less than 70 percent), the Discharger shall initiate a new test as soon as practical, and the Discharger shall investigate the cause of the mortalities and report its findings in the next self monitoring report (SMR).

4) The Discharger shall calibrate chlorine residual analyzers against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, the Discharger shall collect grab samples at least every 30 minutes until compliance with the limit is achieved, unless the Discharger monitors chlorine residual continuously. In such cases, the Discharger shall continue to conduct continuous monitoring as required by its permit.

5) When a bypass occurs (except one subject to provision III.A.3.b.6 below), the Discharger shall monitor flows and collect samples on a daily basis for all constituents at affected discharge points that have effluent limits for the duration of

the bypass (including acute toxicity using static renewals), except chronic toxicity, unless otherwise stipulated by the MRP.

6) Unless otherwise stipulated by the MRP, when a bypass approved pursuant to Attachment D, Standard Provisions, Sections I.G.2 or I.G.4, occurs, the Discharger shall monitor flows and, using appropriate procedures as specified in the MRP, collect and retain samples for affected discharge points on a daily basis for the duration of the bypass. The Discharger shall analyze for total suspended solids (TSS) using 24-hour composites (or more frequent increments) and for bacteria indicators with effluent limits using grab samples. If TSS exceeds 45 mg/L in any composite sample, the Discharger shall also analyze the retained samples for that discharge for all other constituents that have effluent limits, except oil and grease, mercury, dioxin-TEQ, and acute and chronic toxicity. Additionally, at least once each year, the Discharger shall analyze the retained samples for one approved bypass discharge event for all other constituents that have effluent limits, except oil and grease, mercury, dioxin-TEQ, and acute and chronic toxicity. This monitoring shall be in addition to the minimum monitoring specified in the MRP.

c. Storm Water Monitoring

The requirements of this section only apply to facilities that are not covered by an NPDES permit for storm water discharges and where not all site storm drainage from process areas (i.e., areas of the treatment facility where chemicals or wastewater could come in contact with storm water) is directed to the headworks. For storm water not directed to the headworks during the wet season (October 1 to April 30), the Discharger shall:

1) Conduct visual observations of the storm water discharge locations during daylight hours at least once per month during a storm event that produces significant storm water discharge to observe the presence of floating and suspended materials, oil and grease, discoloration, turbidity, and odor, etc.

2) Measure (or estimate) the total volume of storm water discharge, collect grab samples of storm water discharge from at least two storm events that produce significant storm water discharge, and analyze the samples for oil and grease, pH, TSS, and specific conductance.

   The grab samples shall be taken during the first 30 minutes of the discharge. If collection of the grab samples during the first 30 minutes is impracticable, grab samples may be taken during the first hour of the discharge, and the Discharger shall explain in the Annual Report why the grab sample(s) could not be taken in the first 30 minutes.

3) Testing for the presence of non-storm water discharges shall be conducted no less than twice during the dry season (May 1 to September 30) at all storm water discharge locations. Tests may include visual observations of flows, stains, sludges, odors, and other abnormal conditions; dye tests; TV line surveys; or analysis and validation of accurate piping schematics. Records shall be maintained describing the method used, date of testing, locations observed, and test results.

4) Samples shall be collected from all locations where storm water is discharged. Samples shall represent the quality and quantity of storm water discharged from the facility. If a facility discharges storm water at multiple locations, the Discharger may sample a reduced number of locations if it establishes and documents through the monitoring program that storm water discharges from different locations are substantially identical.

5) Records of all storm water monitoring information and copies of all reports required by the permit shall be retained for a period of at least three years from the date of sample, observation, or report.

d. Receiving Water Monitoring

The requirements of this section only apply when the MRP requires receiving water sampling.

1) Receiving water samples shall be collected on days coincident with effluent sampling for conventional pollutants.

2) Receiving water samples shall be collected at each station on each sampling day during the period within one hour following low slack water. Where sampling during lower slack water is impractical, sampling shall be performed during higher slack water. Samples shall be collected within the discharge plume and down current of the discharge point so as to be representative, unless otherwise stipulated in the MRP.

3) Samples shall be collected within one foot of the surface of the receiving water, unless otherwise stipulated in the MRP.

B. Biosolids Monitoring – This section supplements III.B of Standard Provisions (Attachment D)

When biosolids are sent to a landfill, sent to a surface disposal site, or applied to land as a soil amendment, they must be monitored as follows:

1. Biosolids Monitoring Frequency

Biosolids disposal must be monitored at the following frequency:

Metric tons biosolids/365 days	Frequency
0-290	Once per year
290-1500	Quarterly
1500-15,000	Six times per year
Over 15,000	Once per month

(Metric tons are on a dry weight basis)

2. **Biosolids Pollutants to Monitor**

Biosolids shall be monitored for the following constituents:

Land Application: arsenic, cadmium, copper, mercury, molybdenum, nickel, lead, selenium, and zinc

Municipal Landfill: Paint filter test (pursuant to 40 CFR 258)

Biosolids-only Landfill or Surface Disposal Site (if no liner and leachate system): arsenic, chromium, and nickel

C. Standard Observations – This section is an addition to III of Standard Provisions (Attachment D)

1. **Receiving Water Observations**

The requirements of this section only apply when the MRP requires standard observations of the receiving water. Standard observations shall include the following:

a. *Floating and suspended materials* (e.g., oil, grease, algae, and other macroscopic particulate matter): presence or absence, source, and size of affected area.

b. *Discoloration and turbidity*: description of color, source, and size of affected area.

c. *Odor*: presence or absence, characterization, source, distance of travel, and wind direction.

d. *Beneficial water use*: presence of water-associated waterfowl or wildlife, fisherpeople, and other recreational activities in the vicinity of each sampling station.

e. *Hydrographic condition*: time and height of corrected high and low tides (corrected to nearest National Oceanic and Atmospheric Administration location for the sampling date and time of sample collection).

f. *Weather conditions*:

1) Air temperature; and

2) Total precipitation during the five days prior to observation.

2. **Wastewater Effluent Observations**

The requirements of this section only apply when the MRP requires wastewater effluent standard observations. Standard observations shall include the following:

a. *Floating and suspended material of wastewater origin* (e.g., oil, grease, algae, and other macroscopic particulate matter): presence or absence.

b. *Odor*: presence or absence, characterization, source, distance of travel, and wind direction.

3. Beach and Shoreline Observations

The requirements of this section only apply when the MRP requires beach and shoreline standard observations. Standard observations shall include the following:

a. *Material of wastewater origin*: presence or absence, description of material, estimated size of affected area, and source.

b. *Beneficial use*: estimate number of people participating in recreational water contact, non-water contact, or fishing activities.

4. Land Retention or Disposal Area Observations

The requirements of this section only apply to facilities with on-site surface impoundments or disposal areas that are in use. This section applies to both liquid and solid wastes, whether confined or unconfined. The Discharger shall conduct the following for each impoundment:

a. Determine the amount of freeboard at the lowest point of dikes confining liquid wastes.

b. Report evidence of leaching liquid from area of confinement and estimated size of affected area. Show affected area on a sketch and volume of flow (e.g., gallons per minute [gpm]).

c. Regarding odor, describe presence or absence, characterization, source, distance of travel, and wind direction.

d. Estimate number of waterfowl and other water-associated birds in the disposal area and vicinity.

5. Periphery of Waste Treatment and/or Disposal Facilities Observations

The requirements of this section only apply when the MRP specifies periphery standard observations. Standard observations shall include the following:

a. *Odor*: presence or absence, characterization, source, and distance of travel.

b. *Weather conditions*: wind direction and estimated velocity.

IV. STANDARD PROVISIONS – RECORDS

A. Records to be Maintained – This supplements IV.A of Standard Provisions (Attachment D)

The Discharger shall maintain records in a manner and at a location (e.g., wastewater treatment plant or Discharger offices) such that the records are accessible to Regional Water Board staff. The minimum period of retention specified in Section IV, Records, of the Federal Standard Provisions shall be extended during the course of any unresolved litigation regarding the subject discharge, or when requested by the Regional Water Board or Regional Administrator of USEPA, Region IX.

A copy of the permit shall be maintained at the discharge facility and be available at all times to operating personnel.

B. Records of monitoring information shall include – This supplements IV.B of Standard Provision (Attachment D)

1. Analytical Information

Records shall include analytical method detection limits, minimum levels, reporting levels, and related quantification parameters.

2. Flow Monitoring Data

For all required flow monitoring (e.g., influent and effluent flows), the additional records shall include the following, unless otherwise stipulated by the MRP:

a. Total volume for each day; and

b. Maximum, minimum, and average daily flows for each calendar month.

3. Wastewater Treatment Process Solids

a. For each treatment unit process that involves solids removal from the wastewater stream, records shall include the following:

1) Total volume or mass of solids removed from each collection unit (e.g., grit, skimmings, undigested biosolids, or combination) for each calendar month or other time period as appropriate, but not to exceed annually; and

2) Final disposition of such solids (e.g., landfill, other subsequent treatment unit).

b. For final dewatered biosolids from the treatment plant as a whole, records shall include the following:

1) Total volume or mass of dewatered biosolids for each calendar month;

2) Solids content of the dewatered biosolids; and

3) Final disposition of dewatered biosolids (disposal location and disposal method).

4. Disinfection Process

For the disinfection process, these additional records shall be maintained documenting process operation and performance:

a. For bacteriological analyses:

1) Wastewater flow rate at the time of sample collection; and

2) Required statistical parameters for cumulative bacterial values (e.g., moving median or geometric mean for the number of samples or sampling period identified in this Order).

b. For the chlorination process, when chlorine is used for disinfection, at least daily average values for the following:

1) Chlorine residual of treated wastewater as it enters the contact basin (mg/L);

2) Chlorine dosage (kg/day); and

3) Dechlorination chemical dosage (kg/day).

5. Treatment Process Bypasses

A chronological log of all treatment process bypasses, including wet weather blending, shall include the following:

a. Identification of the treatment process bypassed;

b. Dates and times of bypass beginning and end;

c. Total bypass duration;

d. Estimated total bypass volume; and

e. Description of, or reference to other reports describing, the bypass event, the cause, the corrective actions taken (except for wet weather blending that is in compliance with permit conditions), and any additional monitoring conducted.

6. Treatment Facility Overflows

This section applies to records for overflows at the treatment facility. This includes the headworks and all units and appurtenances downstream. The Discharger shall retain a chronological log of overflows at the treatment facility and records supporting the information provided in section V.E.2.

C. Claims of Confidentiality – Not Supplemented

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information – Not Supplemented

B. Signatory and Certification Requirements – Not Supplemented

C. Monitoring Reports – This section supplements V.C of Standard Provisions (Attachment D)

1. Self Monitoring Reports

For each reporting period established in the MRP, the Discharger shall submit an SMR to the Regional Water Board in accordance with the requirements listed in this document and at the frequency the MRP specifies. The purpose of the SMR is to document treatment performance, effluent quality, and compliance with the waste discharge requirements of this Order.

a. Transmittal letter

Each SMR shall be submitted with a transmittal letter. This letter shall include the following:

1) Identification of all violations of effluent limits or other waste discharge requirements found during the reporting period;

2) Details regarding violations: parameters, magnitude, test results, frequency, and dates;

3) Causes of violations;

4) Discussion of corrective actions taken or planned to resolve violations and prevent recurrences, and dates or time schedule of action implementation (if previous reports have been submitted that address corrective actions, reference to the earlier reports is satisfactory);

5) Data invalidation (Data should not be submitted in an SMR if it does not meet quality assurance/quality control standards. However, if the Discharger wishes to invalidate any measurement after it was submitted in an SMR, a letter shall identify the measurement suspected to be invalid and state the Discharger's intent to submit, within 60 days, a formal request to invalidate the measurement. This request shall include the original measurement in question, the reason for invalidating the measurement, all relevant documentation that supports invalidation [e.g., laboratory sheet, log entry, test results, etc.], and discussion of the corrective actions taken or planned [with a time schedule for completion] to prevent recurrence of the sampling or measurement problem.);

6) If the Discharger blends, the letter shall describe the duration of blending events and certify whether blended effluent was in compliance with the conditions for blending; and

7) Signature (The transmittal letter shall be signed according to Section V.B of this Order, Attachment D – Standard Provisions.).

b. Compliance evaluation summary

Each report shall include a compliance evaluation summary. This summary shall include each parameter for which the permit specifies effluent limits, the number of

samples taken during the monitoring period, and the number of samples that exceed applicable effluent limits.

c. Results of analyses and observations

1) Tabulations of all required analyses and observations, including parameter, date, time, sample station, type of sample, test result, method detection limit, method minimum level, and method reporting level, if applicable, signed by the laboratory director or other responsible official.

2) When determining compliance with an average monthly effluent limitation and more than one sample result is available in a month, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of detected but not quantified (DNQ) or nondetect (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

i. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

ii. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

If a sample result, or the arithmetic mean or median of multiple sample results, is below the reporting limit, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the Discharger conducts a Pollutant Minimization Program, the Discharger shall not be deemed out of compliance.

3) Dioxin-TEQ Reporting: The Discharger shall report for each dioxin and furan congener the analytical results of effluent monitoring, including the quantifiable limit (reporting level), the method detection limit, and the measured concentration. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating dioxin-TEQ, the Discharger shall set congener concentrations below the minimum levels (ML) to zero. The Discharger shall calculate and report dioxin-TEQs using the following formula, where the MLs, toxicity equivalency factors (TEFs), and bioaccumulation equivalency factors (BEFs) are as provided in Table A:

$$\text{Dioxin-TEQ} = \Sigma\,(C_x \times TEF_x \times BEF_x)$$

where: C_x = measured or estimated concentration of congener *x*
TEF_x = toxicity equivalency factor for congener x
BEFx = bioaccumulation equivalency factor for congener *x*

Table A

Minimum Levels, Toxicity Equivalency Factors,
and Bioaccumulation Equivalency Factors

Dioxin or Furan Congener	Minimum Level (pg/L)	1998 Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-TCDD	10	1.0	1.0
1,2,3,7,8-PeCDD	50	1.0	0.9
1,2,3,4,7,8-HxCDD	50	0.1	0.3
1,2,3,6,7,8-HxCDD	50	0.1	0.1
1,2,3,7,8,9-HxCDD	50	0.1	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01	0.05
OCDD	100	0.0001	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.05	0.2
2,3,4,7,8-PeCDF	50	0.5	1.6
1,2,3,4,7,8-HxCDF	50	0.1	0.08
1,2,3,6,7,8-HxCDF	50	0.1	0.2
1,2,3,7,8,9-HxCDF	50	0.1	0.6
2,3,4,6,7,8-HxCDF	50	0.1	0.7
1,2,3,4,6,7,8-HpCDF	50	0.01	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01	0.4
OCDF	100	0.0001	0.02

d. Data reporting for results not yet available

The Discharger shall make all reasonable efforts to obtain analytical data for required parameter sampling in a timely manner. Certain analyses require additional time to complete analytical processes and report results. For cases where required monitoring parameters require additional time to complete analytical processes and reports, and results are not available in time to be included in the SMR for the subject monitoring period, the Discharger shall describe such circumstances in the SMR and include the data for these parameters and relevant discussions of any observed exceedances in the next SMR due after the results are available.

e. Flow data

The Discharger shall provide flow data tabulation pursuant to Section IV.B.2.

f. Annual self monitoring report requirements

By the date specified in the MRP, the Discharger shall submit an annual report to the Regional Water Board covering the previous calendar year. The report shall contain the following:

1) Annual compliance summary table of treatment plant performance, including documentation of any blending events;

2) Comprehensive discussion of treatment plant performance and compliance with the permit (This discussion shall include any corrective actions taken or planned, such as changes to facility equipment or operation practices that may be needed to achieve compliance, and any other actions taken or planned that are intended to improve performance and reliability of the Discharger's wastewater collection, treatment, or disposal practices.);

3) Both tabular and graphical summaries of the monitoring data for the previous year if parameters are monitored at a frequency of monthly or greater;

4) List of approved analyses, including the following:

   (i) List of analyses for which the Discharger is certified;

   (ii) List of analyses performed for the Discharger by a separate certified laboratory (copies of reports signed by the laboratory director of that laboratory shall not be submitted but be retained onsite); and

   (iii) List of "waived" analyses, as approved;

5) Plan view drawing or map showing the Discharger's facility, flow routing, and sampling and observation station locations;

6) Results of annual facility inspection to verify that all elements of the SWPP Plan are accurate and up to date (only required if the Discharger does not route all storm water to the headworks of its wastewater treatment plant); and

7) Results of facility report reviews (The Discharger shall regularly review, revise, and update, as necessary, the O&M Manual, the Contingency Plan, the Spill Prevention Plan, and Wastewater Facilities Status Report so that these documents remain useful and relevant to current practices. At a minimum, reviews shall be conducted annually. The Discharger shall include, in each Annual Report, a description or summary of review and evaluation procedures, recommended or planned actions, and an estimated time schedule for implementing these actions. The Discharger shall complete changes to these documents to ensure they are up-to-date.).

g. Report submittal

The Discharger shall submit SMRs to:

California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612
Attn: NPDES Wastewater Division

h. Reporting data in electronic format

The Discharger has the option to submit all monitoring results in an electronic reporting format approved by the Executive Officer. If the Discharger chooses to submit SMRs electronically, the following shall apply:

1) *Reporting Method*: The Discharger shall submit SMRs electronically via a process approved by the Executive Officer (see, for example, the letter dated December 17, 1999, "Official Implementation of Electronic Reporting System [ERS]" and the progress report letter dated December 17, 2000).

2) *Monthly or Quarterly Reporting Requirements*: For each reporting period (monthly or quarterly as specified in the MRP), the Discharger shall submit an electronic SMR to the Regional Water Board in accordance with the provisions of Section V.C.1.a-e, except for requirements under Section V.C.1.c(1) where ERS does not have fields for dischargers to input certain information (e.g., sample time). However, until USEPA approves the electronic signature or other signature technologies, Dischargers that use ERS shall submit a hard copy of the original transmittal letter, an ERS printout of the data sheet, and a violation report (a receipt of the electronic transmittal shall be retained by the Discharger). This electronic SMR submittal suffices for the signed tabulations specified under Section V.C.1.c(1).

3) *Annual Reporting Requirements*: Dischargers who have submitted data using the ERS for at least one calendar year are exempt from submitting the portion of the annual report required under Section V.C.1.f(1) and (3).

D. Compliance Schedules – Not supplemented

E. Twenty-Four Hour Reporting – This section supplements V.E of Standard Provision (Attachment D)

1. Spill of Oil or Other Hazardous Material Reports

a. Within 24 hours of becoming aware of a spill of oil or other hazardous material that is not contained onsite and completely cleaned up, the Discharger shall report by telephone to the Regional Water Board at (510) 622-2369.

b. The Discharger shall also report such spills to the State Office of Emergency Services [telephone (800) 852-7550] only when the spills are in accordance with applicable reporting quantities for hazardous materials.

c. The Discharger shall submit a written report to the Regional Water Board within five working days following telephone notification unless directed otherwise by Regional Water Board staff. A report submitted electronically is acceptable. The written report shall include the following:

1) Date and time of spill, and duration if known;

2) Location of spill (street address or description of location);

3) Nature of material spilled;

4) Quantity of material involved;

5) Receiving water body affected, if any;

6) Cause of spill;

7) Estimated size of affected area;

8) Observed impacts to receiving waters (e.g., oil sheen, fish kill, water discoloration);

9) Corrective actions taken to contain, minimize, or clean up the spill;

10) Future corrective actions planned to be taken to prevent recurrence, and schedule of implementation; and

11) Persons or agencies notified.

2. Unauthorized Discharges from Municipal Wastewater Treatment Plants[1]

The following requirements apply to municipal wastewater treatment plants that experience an unauthorized discharge at their treatment facilities and are consistent with and supercede requirements imposed on the Discharger by the Executive Officer by letter of May 1, 2008, issued pursuant to California Water Code Section 13383.

a. Two (2)-Hour Notification

For any unauthorized discharges that result in a discharge to a drainage channel or a surface water, the Discharger shall, as soon as possible, but not later than two (2) hours after becoming aware of the discharge, notify the State Office of Emergency Services (telephone 800-852-7550), the local health officers or directors of environmental health with jurisdiction over the affected water bodies, and the Regional Water Board. The notification to the Regional Water Board shall be via the Regional Water Board's online reporting system at www.wbers.net, and shall include the following:

1) Incident description and cause;

2) Location of threatened or involved waterway(s) or storm drains;

3) Date and time the unauthorized discharge started;

4) Estimated quantity and duration of the unauthorized discharge (to the extent known), and the estimated amount recovered;

[1] California Code of Regulations, Title 23, Section 2250(b), defines an unauthorized discharge to be a discharge, not regulated by waste discharge requirements, of treated, partially treated, or untreated wastewater resulting from the intentional or unintentional diversion of wastewater from a collection, treatment or disposal system.

5) Level of treatment prior to discharge (e.g., raw wastewater, primary treated, undisinfected secondary treated, and so on); and

6) Identity of the person reporting the unauthorized discharge.

b. 24-hour Certification

Within 24 hours, the Discharger shall certify to the Regional Water Board, at www.wbers.net, that the State Office of Emergency Services and the local health officers or directors of environmental health with jurisdiction over the affected water bodies have been notified of the unauthorized discharge.

c. 5-Day Written Report

Within five business days, the Discharger shall submit a written report, via the Regional Water Board's online reporting system at www.wbers.net, that includes, in addition to the information required above, the following:

1) Methods used to delineate the geographical extent of the unauthorized discharge within receiving waters;

2) Efforts implemented to minimize public exposure to the unauthorized discharge;

3) Visual observations of the impacts (if any) noted in the receiving waters (e.g., fish kill, discoloration of water) and the extent of sampling if conducted;

4) Corrective measures taken to minimize the impact of the unauthorized discharge;

5) Measures to be taken to minimize the chances of a similar unauthorized discharge occurring in the future;

6) Summary of Spill Prevention Plan or O&M Manual modifications to be made, if necessary, to minimize the chances of future unauthorized discharges; and

7) Quantity and duration of the unauthorized discharge, and the amount recovered.

d. Communication Protocol

To clarify the multiple levels of notification, certification, and reporting, the current communication requirements for unauthorized discharges from municipal wastewater treatment plants are summarized in Table B that follows.

Table B

Summary of Communication Requirements for Unauthorized Discharges[1] from Municipal Wastewater Treatment Plants

Discharger is required to:	Agency Receiving Information	Time frame	Method for Contact
1. Notify	California Emergency Management Agency (Cal EMA)	As soon as possible, but not later than **2 hours** after becoming aware of the unauthorized discharge.	Telephone – (800) 852-7550 (obtain a control number from Cal EMA)
	Local health department	As soon as possible, but not later than **2 hours** after becoming aware of the unauthorized discharge.	Depends on local health department
	Regional Water Board	As soon as possible, but not later than **2 hours** after becoming aware of the unauthorized discharge.	Electronic[2] www.wbers.net
2. Certify	Regional Water Board	As soon as possible, but not later than **24 hours** after becoming aware of the unauthorized discharge.	Electronic[3] www.wbers.net
3. Report	Regional Water Board	Within **5 business days** of becoming aware of the unauthorized discharge.	Electronic[4] www.wbers.net

[1] California Code of Regulations, Title 23, Section 2250(b), defines an unauthorized discharge to be a discharge, not regulated by waste discharge requirements, of treated, partially treated, or untreated wastewater resulting from the intentional or unintentional diversion of wastewater from a collection, treatment or disposal system.

[2] In the event that the Discharger is unable to provide online notification within 2 hours of becoming aware of an unauthorized discharge, it shall phone the Regional Water Board's spill hotline at (510) 622-2369 and convey the same information contained in the notification form. In addition, within 3 business days of becoming aware of the unauthorized discharge, the Discharger shall enter the notification information into the Regional Water Board's online system in electronic format.

[3] In most instances, the 2-hour notification will also satisfy 24-hour certification requirements. This is because the notification form includes fields for documenting that OES and the local health department have been contacted. In other words, if the Discharger is able to complete all the fields in the notification form within 2 hours, certification requirements are also satisfied. In the event that the Discharger is unable to provide online certification within 24 hours of becoming aware of an unauthorized discharge, it shall phone the Regional Water Board's spill hotline at (510) 622-2369 and convey the same information contained in the certification form. In addition, within 3 business days of becoming aware of the unauthorized discharge, the Discharger shall enter the certification information into the Regional Water Board's online system in electronic format.

[4] If the Discharger cannot satisfy the 5-day reporting requirements via the Regional Water Board's online reporting system, it shall submit a written report (preferably electronically in pdf) to the appropriate Regional Water Board case manager. In cases where the Discharger cannot satisfy the 5-day reporting requirements via the online reporting system, it must still complete the Regional Water Board's online reporting requirements within 15 calendar days of becoming aware of the unauthorized discharge.

F. Planned Changes – Not supplemented

G. Anticipated Noncompliance – Not supplemented

H. Other Noncompliance – Not supplemented

I. Other Information – Not supplemented

VI. STANDARD PROVISIONS – ENFORCEMENT – Not Supplemented

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS – Not Supplemented

VIII. DEFINITIONS – This section is an addition to Standard Provisions (Attachment D)

More definitions can be found in Attachment A of this NPDES Permit.

1. Arithmetic Calculations

   a. Geometric mean is the antilog of the log mean or the back-transformed mean of the logarithmically transformed variables, which is equivalent to the multiplication of the antilogarithms. The geometric mean can be calculated with either of the following equations:

   $$\text{Geometric Mean} = Anti\log\left(\frac{1}{N}\sum_{i=1}^{N} Log(C_i)\right)$$

   or

   $$\text{Geometric Mean} = (C_1 * C_2 * \ldots * C_N)^{1/N}$$

   Where "N" is the number of data points for the period analyzed and "C" is the concentration for each of the "N" data points.

   b. Mass emission rate is obtained from the following calculation for any calendar day:

   $$\text{Mass emission rate (lb/day)} = \frac{8.345}{N}\sum_{i=1}^{N} Q_i C_i$$

   $$\text{Mass emission rate (kg/day)} = \frac{3.785}{N}\sum_{i=1}^{N} Q_i C_i$$

   In which "N" is the number of samples analyzed in any calendar day and "Q_i" and "C_i" are the flow rate (MGD) and the constituent concentration (mg/L) associated with each of the "N" grab samples that may be taken in any calendar day. If a composite sample is taken, "C_i" is the concentration measured in the composite sample and "Q_i" is the average flow rate occurring during the period over which the samples are composited. The daily concentration of a constituent measured over any calendar day shall be determined from the flow-weighted average of the same constituent in the combined waste streams as follows:

C_d = Average daily concentration = $\frac{1}{Q_t}\sum_{i=1}^{N} Q_i C_i$

In which "N" is the number of component waste streams and "Q" and "C" are the flow rate (MGD) and the constituent concentration (mg/L) associated with each of the "N" waste streams. "Q_t" is the total flow rate of the combined waste streams.

c. Maximum allowable mass emission rate, whether for a 24-hour, weekly 7-day, monthly 30-day, or 6-month period, is a limitation expressed as a daily rate determined with the formulas in the paragraph above, using the effluent concentration limit specified in the permit for the period and the specified allowable flow.

d. POTW removal efficiency is the ratio of pollutants removed by the treatment facilities to pollutants entering the treatment facilities (expressed as a percentage). The Discharger shall determine removal efficiencies using monthly averages (by calendar month unless otherwise specified) of pollutant concentration of influent and effluent samples collected at about the same time and using the following equation (or its equivalent):

Removal Efficiency (%) = 100 × [1-(Effluent Concentration/Influent Concentration)]

2. Biosolids means the solids, semi-liquid suspensions of solids, residues, screenings, grit, scum, and precipitates separated from or created in wastewater by the unit processes of a treatment system. It also includes, but is not limited to, all supernatant, filtrate, centrate, decantate, and thickener overflow and underflow in the solids handling parts of the wastewater treatment system.

3. Blending is the practice of recombining wastewater that has been biologically treated with wastewater that has bypassed around biological treatment units.

4. Bottom sediment sample is (1) a separate grab sample taken at each sampling station for the determination of selected physical-chemical parameters, or (2) four grab samples collected from different locations in the immediate vicinity of a sampling station while the boat is anchored and analyzed separately for macroinvertebrates.

5. Composite sample is a sample composed of individual grab samples collected manually or by an automatic sampling device on the basis of time or flow as specified in the MRP. For flow-based composites, the proportion of each grab sample included in the composite sample shall be within plus or minus five percent (+/-5%) of the representative flow rate of the waste stream being measured at the time of grab sample collection. Alternatively, equal volume grab samples may be individually analyzed with the flow-weighted average calculated by averaging flow-weighted ratios of each grab sample analytical result. Grab samples comprising time-based composite samples shall be collected at intervals not greater than those specified in the MRP. The quantity of each grab sample comprising a time-based composite sample shall be a set of flow proportional volumes as specified in the MRP. If a particular time-based or flow-based composite sampling protocol is not specified in the MRP, the Discharger shall determine and implement the most representative sampling protocol for the given parameter subject to Executive Officer approval.

6. Depth-integrated sample is defined as a water or waste sample collected by allowing a sampling device to fill during a vertical traverse in the waste or receiving water body being sampled. The

Discharger shall collect depth-integrated samples in such a manner that the collected sample will be representative of the waste or water body at that sampling point.

7. Flow sample is an accurate measurement of the average daily flow volume using a properly calibrated and maintained flow measuring device.

8. Grab sample is an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples represent only the condition that exists at the time the wastewater is collected.

9. Initial dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with receiving water around the point of discharge.

10. Overflow is the intentional or unintentional spilling or forcing out of untreated or partially treated wastes from a transport system (e.g., through manholes, at pump stations, and at collection points) upstream from the treatment plant headworks or from any part of a treatment plant facility.

11. Priority pollutants are those constituents referred to in 40 CFR Part 122 as promulgated in the Federal Register, Vol. 65, No. 97, Thursday, May 18, 2000, also known as the California Toxics Rule, the presence or discharge of which could reasonably be expected to interfere with maintaining designated uses.

12. Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage. It excludes infiltration and runoff from agricultural land.

13. Toxic pollutant means any pollutant listed as toxic under federal Clean Water Act section 307(a)(1) or under 40 CFR 401.15.

14. Untreated waste is raw wastewater.

15. Waste, waste discharge, discharge of waste, and discharge are used interchangeably in the permit. The requirements of the permit apply to the entire volume of water, and the material therein, that is disposed of to surface and ground waters of the State of California.

Table C

List of Monitoring Parameters and Analytical Methods

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
1.	Antimony	204.2					10	5	50	0.5	5	0.5		1000
2.	Arsenic	206.3				20		2	10	2	2	1		1000
3.	Beryllium						20	0.5	2	0.5	1			1000
4.	Cadmium	200 or 213				10	0.5	10	0.25	0.5				1000
5a.	Chromium (III)	SM 3500												
5b.	Chromium (VI)	SM 3500				10	5							1000
6.	Copper	200.9					25	5	10	0.5	2			1000
7.	Lead	200.9					20	5	5	0.5	2			10,000
8.	Mercury	1631 (note)[3]												
9.	Nickel	249.2					50	5	20	1	5			1000
10.	Selenium	200.8 or SM 3114B or C						5	10	2	5	1		1000
11.	Silver	272.2					10	1	10	0.25	2			1000
12.	Thallium	279.2					10	2	10	1	5			1000
13.	Zinc	200 or 289					20		20	1	10			
14.	Cyanide	SM 4500 CN^- C or I				5								
15.	Asbestos (only required for dischargers to MUN waters)[4]	0100.2 [5]												
16.	2,3,7,8-TCDD and 17 congeners (Dioxin)	1613												
17.	Acrolein	603	2.0	5										
18.	Acrylonitrile	603	2.0	2										
19.	Benzene	602	0.5	2										
33.	Ethylbenzene	602	0.5	2										
39.	Toluene	602	0.5	2										

[1] The suggested method is the USEPA Method unless otherwise specified (SM = Standard Methods). The Discharger may use another USEPA-approved or recognized method if that method has a level of quantification below the applicable water quality objective. Where no method is suggested, the Discharger has the discretion to use any standard method.

[2] Minimum levels are from the *State Implementation Policy*. They are the concentration of the lowest calibration standard for that technique based on a survey of contract laboratories. Laboratory techniques are defined as follows: GC = Gas Chromatography; GCMS = Gas Chromatography/Mass Spectrometry; LC = High Pressure Liquid Chromatography; Color = Colorimetric; FAA = Flame Atomic Absorption; GFAA = Graphite Furnace Atomic Absorption; ICP = Inductively Coupled Plasma; ICPMS = Inductively Coupled Plasma/Mass Spectrometry; SPGFAA = Stabilized Platform Graphite Furnace Atomic Absorption (i.e., USEPA 200.9); Hydride = Gaseous Hydride Atomic Absorption; CVAA = Cold Vapor Atomic Absorption; DCP = Direct Current Plasma.

[3] The Discharger shall use ultra-clean sampling (USEPA Method 1669) and ultra-clean analytical methods (USEPA Method 1631) for mercury monitoring. The minimum level for mercury is 2 ng/l (or 0.002 ug/l).

[4] MUN = Municipal and Domestic Supply. This designation, if applicable, is in the Findings of the permit.

[5] *Determination of Asbestos Structures over 10 [micrometers] in Length in Drinking Water Using MCE Filters*, USEPA 600/R-94-134, June 1994.

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
20.	Bromoform	601	0.5	2										
21.	Carbon Tetrachloride	601	0.5	2										
22.	Chlorobenzene	601	0.5	2										
23.	Chlorodibromomethane	601	0.5	2										
24.	Chloroethane	601	0.5	2										
25.	2-Chloroethylvinyl Ether	601	1	1										
26.	Chloroform	601	0.5	2										
75.	1,2-Dichlorobenzene	601	0.5	2										
76.	1,3-Dichlorobenzene	601	0.5	2										
77.	1,4-Dichlorobenzene	601	0.5	2										
27.	Dichlorobromomethane	601	0.5	2										
28.	1,1-Dichloroethane	601	0.5	1										
29.	1,2-Dichloroethane	601	0.5	2										
30.	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5	2										
31.	1,2-Dichloropropane	601	0.5	1										
32.	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5	2										
34.	Methyl Bromide or Bromomethane	601	1.0	2										
35.	Methyl Chloride or Chloromethane	601	0.5	2										
36.	Methylene Chloride or Dichlorormethane	601	0.5	2										
37.	1,1,2,2-Tetrachloroethane	601	0.5	1										
38.	Tetrachloroethylene	601	0.5	2										
40.	1,2-Trans-Dichloroethylene	601	0.5	1										
41.	1,1,1-Trichloroethane	601	0.5	2										
42.	1,1,2-Trichloroethane	601	0.5	2										
43.	Trichloroethene	601	0.5	2										
44.	Vinyl Chloride	601	0.5	2										
45.	2-Chlorophenol	604	2	5										
46.	2,4-Dichlorophenol	604	1	5										
47.	2,4-Dimethylphenol	604	1	2										
48.	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	604	10	5										
49.	2,4-Dinitrophenol	604	5	5										
50.	2-Nitrophenol	604		10										
51.	4-Nitrophenol	604	5	10										
52.	3-Methyl-4-Chlorophenol	604	5	1										
53.	Pentachlorophenol	604	1	5										
54.	Phenol	604	1	1		50								
55.	2,4,6-Trichlorophenol	604	10	10										
56.	Acenaphthene	610 HPLC	1	1	0.5									
57.	Acenaphthylene	610 HPLC		10	0.2									
58.	Anthracene	610 HPLC		10	2									
60.	Benzo(a)Anthracene or 1,2 Benzanthracene	610 HPLC	10	5										
61.	Benzo(a)Pyrene	610 HPLC		10	2									
62.	Benzo(b)Fluoranthene or 3,4 Benzofluoranthene	610 HPLC		10	10									
63.	Benzo(ghi)Perylene	610 HPLC		5	0.1									

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
64.	Benzo(k)Fluoranthene	610 HPLC		10	2									
74.	Dibenzo(a,h)Anthracene	610 HPLC		10	0.1									
86.	Fluoranthene	610 HPLC	10	1	0.05									
87.	Fluorene	610 HPLC		10	0.1									
92.	Indeno(1,2,3-cd) Pyrene	610 HPLC		10	0.05									
100.	Pyrene	610 HPLC		10	0.05									
68.	Bis(2-Ethylhexyl)Phthalate	606 or 625	10	5										
70.	Butylbenzyl Phthalate	606 or 625	10	10										
79.	Diethyl Phthalate	606 or 625	10	2										
80.	Dimethyl Phthalate	606 or 625	10	2										
81.	Di-n-Butyl Phthalate	606 or 625		10										
84.	Di-n-Octyl Phthalate	606 or 625		10										
59.	Benzidine	625		5										
65.	Bis(2-Chloroethoxy)Methane	625		5										
66.	Bis(2-Chloroethyl)Ether	625	10	1										
67.	Bis(2-Chloroisopropyl)Ether	625	10	2										
69.	4-Bromophenyl Phenyl Ether	625	10	5										
71.	2-Chloronaphthalene	625		10										
72.	4-Chlorophenyl Phenyl Ether	625		5										
73.	Chrysene	625		10	5									
78.	3,3'-Dichlorobenzidine	625		5										
82.	2,4-Dinitrotoluene	625	10	5										
83.	2,6-Dinitrotoluene	625		5										
85.	1,2-Diphenylhydrazine (note)[6]	625		1										
88.	Hexachlorobenzene	625	5	1										
89.	Hexachlorobutadiene	625	5	1										
90.	Hexachlorocyclopentadiene	625	5	5										
91.	Hexachloroethane	625	5	1										
93.	Isophorone	625	10	1										
94.	Naphthalene	625	10	1	0.2									
95.	Nitrobenzene	625	10	1										
96.	N-Nitrosodimethylamine	625	10	5										
97.	N-Nitrosodi-n-Propylamine	625	10	5										
98.	N-Nitrosodiphenylamine	625	10	1										
99.	Phenanthrene	625		5	0.05									
101.	1,2,4-Trichlorobenzene	625	1	5										
102.	Aldrin	608	0.005											
103.	α-BHC	608	0.01											
104.	β-BHC	608	0.005											
105.	γ-BHC (Lindane)	608	0.02											
106.	δ-BHC	608	0.005											
107.	Chlordane	608	0.1											
108.	4,4'-DDT	608	0.01											
109.	4,4'-DDE	608	0.05											
110.	4,4'-DDD	608	0.05											

[6] Measurement for 1,2-Diphenylhydrazine may use azobenzene as a screen: if azobenzene is measured at >1 ug/l, then the Discharger shall analyze for 1,2-Diphenylhydrazine.

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
111.	Dieldrin	608	0.01											
112.	Endosulfan (alpha)	608	0.02											
113.	Endosulfan (beta)	608	0.01											
114.	Endosulfan Sulfate	608	0.05											
115.	Endrin	608	0.01											
116.	Endrin Aldehyde	608	0.01											
117.	Heptachlor	608	0.01											
118.	Heptachlor Epoxide	608	0.01											
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608	0.5											
126.	Toxaphene	608	0.5											