

## ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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## **ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)**

NPDES regulations at 40 CFR 122.48 require that all NPDES permits include monitoring and reporting requirements. Water Code sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

### **I. GENERAL MONITORING PROVISIONS**

- A.** In accordance with Water Code section 13176, the Department of Health Services shall certify laboratories that analyze samples taken in accordance with this program. Laboratories shall include quality assurance/quality control data with their reports.
- B.** Samples and measurements shall be representative of the volume and nature of the discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins, or is diluted by, any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and approval of the Executive Officer.
- C.** Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than  $\pm 10$  percent from true discharge rates throughout the range of expected discharge volumes. Guidance in selection, installation, calibration, and operation of acceptable flow measurement devices can be obtained from the following references, among others.
  - 1. A Guide to Methods and Standards for the Measurement of Water Flow, U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 96 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by SD Catalog No. C13.10:421.)
  - 2. Water Measurement Manual, U.S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U.S. Government Printing Office, Washington D.C. 20402. Order by Catalog No. 172.19/2:W29/2, Stock No. S/N 24003-0027)
  - 3. Flow Measurement in Open Channels and Closed Conduits, U.S. Department of Commerce, National Bureau of Standards, NBS Special

Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Services (NTIS) Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST)

4. NPDES Compliance Sampling Manual, U.S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-51, 1977, 140 pp. (Available from the General Services Administration (8FFS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, CO 80225.)
- D. All monitoring instruments and devices used by the Discharger to implement the monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.
- E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this MRP.
- F. Unless otherwise specified by this MRP, all analyses shall be conducted in accordance with test procedures established at 40 CFR 136, *Guidelines Establishing Test Procedures for Analysis of Pollutants*. All analyses shall be conducted using the lowest practical quantitation limit achievable using the specified methodology. Where effluent limitations are set below the lowest achievable quantitation limits, pollutants not detected at the lowest practical quantitation limits will be considered in compliance with effluent limitations. Analyses for toxics listed in Table B of the 2005 California Ocean Plan shall conform to its guidance and requirements.

## 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

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	INF-001	Location where influent wastewater, before treatment and after all significant inflows to the collection system of untreated wastewater, including inflow and infiltration.
001	EFF-001	Location where representative samples of effluent discharged to the Pacific Ocean can be collected.
001	A	Point Santa Cruz
001	C	Surf at old outfall line
001	E	610 meters west of the outfall line crossing the beach

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	F	Natural Bridges State Beach
001	G	Terrace Point
001	H	1,180 meters upcoast of Terrace Point
001	I	2,080 meters upcoast of Terrace Point

### III. INFLUENT MONITORING REQUIREMENTS

#### A. Monitoring Location INF - 001

1. The Discharger shall monitor influent to the facility at Monitoring Location INF – 001 in accordance with the following schedule.

**Table E-2. Influent Monitoring**

Parameter	Units	Sample Type	Minimum Sampling Frequency
Daily Flow	MGD	Metered	Daily
Instantaneous Max Flow	MGD	Metered	Daily
Maximum Daily Flow	MGD	Metered	Daily
Mean Daily Flow	MGD	Calculated	Monthly
Mean Daily pH	pH units	Metered	Daily
Maximum Daily pH	pH units	Metered	Daily
Minimum Daily pH	pH units	Metered	Daily
Carbonaceous Biochemical Oxygen Demand (BOD <sub>5</sub> )	mg/L	24 Hr Composite	Every six days
Total Suspended Solids (TSS)	mg/L	24 Hr Composite	Every six days
Ocean Plan Table B Pollutants	Per Table B	24 Hr Composite <sup>1</sup>	Annually (August)

[1.] The Discharger shall use the high volume water sampling (HVWS) method employed by the CCLEAN program to monitor the Table B pollutants and other pollutants when appropriate, if the subsequent analytical methods are in accordance with 40 CFR 136 or as allowable per the Implementation Provisions for Table B contained in section III.C.5.b of the Ocean Plan.

### IV. EFFLUENT MONITORING REQUIREMENTS

#### A. Monitoring Location EFF - 001

1. The Discharger shall monitor effluent at Monitoring Location EFF – 001 in accordance with the following schedule.

**Table E-3. Effluent Monitoring at EFF - 001**

Parameter	Units	Sample Type	Minimum Sampling Frequency
Total Flow	MGD	Metered	Daily
Instantaneous Max Flow	MGD	Metered	Daily

Parameter	Units	Sample Type	Minimum Sampling Frequency
Maximum Daily Flow	MGD	Metered	Daily
Mean Daily Flow	MGD	Calculated	Monthly
pH	pH units	Metered	Daily
Temperature	° F	Metered	Daily
CBOB(BOD <sub>5</sub> , if reported)	mg/L	24-hr composite	Twice weekly
Total Suspended Solids	mg/L	24-hr composite	Twice weekly
Settleable Solids	mL/L/hr	Grab	Twice weekly
Total and fecal coliform bacteria <sup>6,7</sup>	MPN/100 mL	Grab	Weekly <sup>5</sup>
Enterococci bacteria <sup>6,8</sup>	MPN/100 mL	Grab	Weekly <sup>5</sup>
Total Chlorine Residual <sup>9</sup>	mg/L	Continual	Daily
Turbidity	NTU	Grab	Monthly
Oil and Grease	mg/L	Grab	Monthly
Ammonia (as N)	mg/L	Grab	Monthly
Nitrate (as N)	mg/L	Grab	Monthly
Urea	mg/L	Grab	Monthly
Silicate	mg/L	Grab	Monthly
Acute Toxicity <sup>1</sup>	TUa	Grab	Semiannually
Chronic Toxicity <sup>1</sup>	TUc	Grab	Semiannually
Copper	µg/L	Grab	Quarterly
Zinc	µg/L	Grab	Quarterly
DDT	µg/L	Grab	Quarterly
Ocean Plan Table B Pollutants <sup>2</sup>	µg/L	24-hr composite <sup>4, 10</sup>	Semiannually <sup>3</sup>

<sup>[1]</sup> Whole effluent, acute and chronic toxicity monitoring shall be conducted according to the requirements established in section V. of this Monitoring and Reporting Program.

<sup>[2]</sup> The Discharger shall monitor the Ocean Plan (2005) Table B pollutants, and whole effluent acute and chronic toxicity once in the dry season and once in the wet season each year. Toxicity and Ocean Plan Table B pollutant sampling/monitoring shall be conducted concurrently.

<sup>[3]</sup> Procedures, calibration techniques, and instrument/reagent specifications used to determine compliance with Table B shall conform to 40 CFR 136 and applicable provisions of the Ocean Plan, including the Standard Monitoring Procedures in Ocean Plan Appendix III. The Discharger shall instruct its analytical laboratory to establish calibration standards so that the Minimum Levels (MLs) presented in Appendix II of the Ocean Plan are the lowest calibration standards. The Discharger and its analytical laboratory shall select MLs, which are below applicable water quality criteria of Table B; and when applicable water quality criteria are below all MLs, the Discharger and its analytical laboratory shall select the lowest ML.

<sup>[4]</sup> The Discharger shall utilize high volume water sampling (HVWS) methods employed by the CCLEAN program for compliance determination of the Table B pollutants and other pollutants, when appropriate, provided the subsequent analytical methods are in accordance with 40 CFR 136 or as allowable per the Implementation Provisions for Table B contained in section III.C.5.b of the Ocean Plan.

<sup>[5]</sup> The Discharger shall monitor total coliform, fecal coliform and enterococcus if the Executive Officer concludes from a bacterial assessment that the discharge consistently exceeds Receiving Water Limitation C.1.

- [6] For all bacterial analyses, sample dilutions shall ensure the range of bacterial densities extends from 200 to 160,000MPN/100mL. The detection methods used for each analysis shall be reported with the results of the analysis.
- [7] Analytical methods used for coliform analyses (total and fecal) shall be those in Table 1A of 40 CFR 136 (revised edition of May 14, 1999) unless USEPA approves alternate methods pursuant to 40 CFR 136.
- [8] Detection methods used for enterococcus shall be those presented in EPA Publication EPA 600/4-85/076, Test Methods for *Escherichia Coli* and Enterococcus in Water by Membrane Filter Procedure or an improved method determined by the Executive Officer to be appropriate.
- [9] The Discharger shall monitor the effluent continually for chlorine residual when effluent chlorine disinfection is occurring. The City shall review continual monitoring strip charts and submit a summary (chlorine residual daily range and daily average) to the Executive Officer with monthly monitoring reports. Grab samples for compliance with effluent limits may be collected at the last accessible measurement location before discharge to the ocean.
- [10] The Discharger shall select, in concert the other CCLEAN participants, the appropriate HWWS Integrative method or methods to monitor the discharges from their respective treatment plants for Table B pollutants, the remaining priority pollutants, and the Chemicals of Emerging Concern in Table E-4.

**By May 21, 2008**, the Discharger shall submit, for the approval of the Executive Officer, a technical report describing the following, but not necessarily limited to, the following: the basis for the choice of the selected method(s), and the pollutants detectable by each method. The Discharger shall implement the selected method in accordance with Footnote No. 2,

**TABLE E-4: Effluent Monitoring of Remaining Priority Pollutants and Compounds of Emerging Concern<sup>1,3,8</sup>**

Parameter	Units	Sample Type	Min. Analysis Frequency
Endrin Aldehyde	µg/L	24-hr Composite <sup>2</sup>	Semiannually
Acenaphthene	µg/L	24-hr Composite <sup>2</sup>	Semiannually
1,2,4,-Trichlorobenzene	µg/L	24-hr Composite <sup>2</sup>	Semiannually
2-Chlorobenzene	µg/L	24-hr Composite <sup>2</sup>	Semiannually
2-Chloronaphthalene	µg/L	24-hr Composite <sup>2</sup>	Semiannually
2,6-Dinitrotoluene	µg/L	24-hr Composite <sup>2</sup>	Semiannually
4-Chlorophenyl	µg/L	24-hr Composite <sup>2</sup>	Semiannually
Phenyl Ether	µg/L	24-hr Composite <sup>2</sup>	Semiannually
4-Bromophenyl	µg/L	24-hr Composite <sup>2</sup>	Semiannually
Phenyl Ether	µg/L	24-hr Composite <sup>2</sup>	Semiannually
Naphthalene	µg/L	24-hr Composite <sup>2</sup>	Semiannually
N-Nitrosodi-M-Propylamine	µg/L	24-hr Composite <sup>2</sup>	Semiannually
Bis (2-Ethyl-hexyl) Phthalate	µg/L	24-hr Composite <sup>2</sup>	Semiannually
N-Butyl Benzyl Phthalate	µg/L	24-hr Composite <sup>2</sup>	Semiannually
Di-N-Octyl Phthalate	µg/L	24-hr Composite <sup>2</sup>	Semiannually
Benzo(A)Anthracene	µg/L	24-hr Composite <sup>2</sup>	Semiannually
Benzo(A)Pyrene	µg/L	24-hr Composite <sup>2</sup>	Semiannually
Benzo(B)Fluoranthene	µg/L	24-hr Composite <sup>2</sup>	Semiannually
Benzo(K)Fluoranthene	µg/L	24-hr Composite <sup>2</sup>	Semiannually
P-Chloro-M-Cresol	µg/L	24-hr Composite <sup>2</sup>	Semiannually
2-Chlorophenol	µg/L	24-hr Composite <sup>2</sup>	Semiannually
2,4-Dichlorophenol	µg/L	24-hr Composite <sup>2</sup>	Semiannually
2,4-Dimethylphenol	µg/L	24-hr Composite <sup>2</sup>	Semiannually
2-Nitrophenol	µg/L	24-hr Composite <sup>2</sup>	Semiannually
4-Nitrophenol	µg/L	24-hr Composite <sup>2</sup>	Semiannually

Parameter	Units	Sample Type	Min. Analysis Frequency
4,6,-Dinitro-O-Cresol	µg/L	24-hr Composite <sup>2</sup>	Semiannually
Pentachlorophenol	µg/L	24-hr Composite <sup>2</sup>	Semiannually
Phenol	µg/L	24-hr Composite <sup>2</sup>	Semiannually
1,1-Dichloroethane	µg/L	24-hr Composite <sup>2</sup>	Semiannually
Chloroethane	µg/L	24-hr Composite <sup>2</sup>	Semiannually
1,2,-Trans-Dichloroethylene	µg/L	24-hr Composite <sup>2</sup>	Semiannually
1,2,-Dichloropropane	µg/L	24-hr Composite <sup>2</sup>	Semiannually
Methylene Chloride	µg/L	24-hr Composite <sup>2</sup>	Semiannually
Trichlorofluoromethane	µg/L	24-hr Composite <sup>2</sup>	Semiannually
Dichlorodifluoromethane	µg/L	24-hr Composite <sup>2</sup>	Semiannually
Dibromochloromethane	µg/L	24-hr Composite <sup>2</sup>	Semiannually
Bis(Chloromethyl) Ether	µg/L	24-hr Composite <sup>2</sup>	Semiannually
Polybrominated biphenyl ethers	µg/L	24-hr Composite <sup>2</sup>	Semiannually <sup>5</sup>
Endocrine disrupting compounds <sup>[6]</sup>	Biological effects	24-hr Composite <sup>2,10</sup>	Semiannually <sup>5</sup>
Polyfluorinated compounds	[7]	[7]	Semiannually <sup>5</sup>

<sup>[1]</sup> The Discharger shall monitor the remaining priority pollutants once in the dry season and once in the wet season each year. Toxicity and Priority Pollutant sampling shall be conducted concurrently.

<sup>[2]</sup> The Discharger shall utilize high volume water sampling (HVWS) methods employed by the CCLEAN program for compliance determination of the Table B pollutants when appropriate, provided the subsequent analytical methods are in accordance with 40 CFR 136 or as allowable per the Implementation Provisions for Table B contained in section III.C.5.b of the Ocean Plan.

<sup>[3]</sup> Procedures, calibration techniques, and instrument/reagent specifications shall conform to 40 CFR 136 and applicable provisions of the Ocean Plan, including the standard monitoring procedures in Ocean Plan Appendix III. The discharger shall instruct its analytical laboratory to establish calibration standards so that the minimum levels (MLs) are the lowest calibration standards.

<sup>[4]</sup> If the Discharger detects a constituent listed in Tables E-2, E-3, or E-4 of this MRP at levels exceeding the limits of Order No. R3-2008-0016, the Discharger shall collect a new sample and analyze it within one month for constituents exceeding the applicable limit. The Discharger shall continue to collect samples for monthly analyses until the constituents do not exceed the limit for two consecutive months.

<sup>[5]</sup> If the Discharger detects no pollutants or their effects, then the sampling frequency may be reduced to annually.

<sup>[6]</sup> **By July 1, 2008**, the Discharger shall submit a technical report, for the approval of the Executive Officer, describing an integrative biological method (bioassay) to monitor the effects of endocrine disrupting compounds on indigenous marine fish. The Discharger shall develop the technical report in concert with the other CCLEAN members. The bioassay shall be a proven method and shall be employed sequentially by each CCLEAN member. The technical report shall provide for bioassay implementation no later than **August 1, 2008**.

<sup>[7]</sup> **By July 1, 2008**, the Discharger shall submit a technical report describing a screening study for polyfluorinated compounds. The Discharger shall develop the technical report in concert with the other CCLEAN members. The technical report shall provide for screening study implementation no later than **August 1, 2008**.

[8] The Discharger shall monitor the Ocean Plan (2005) Table B pollutants, and whole effluent acute and chronic toxicity once in the dry season and once in the wet season each year so effluent monitoring occurs annually when the discharge is primarily secondary treated wastewater (wet season) and annually when the discharge is primarily brine waste (dry season). Toxicity and Ocean Plan Table B pollutant sampling/monitoring shall be conducted concurrently.

[10] The Discharger shall select, in concert the other CCLEAN participants, the appropriate HVWS Integrative method or methods to monitor the discharges from their respective treatment plants for Table B pollutants, the remaining priority pollutants, and the Chemicals of Emerging Concern in Table E-4. **By May 21, 2008**, the Discharger shall submit, for the approval of the Executive Officer, a technical

Parameter	Units	Sample Type	Min. Analysis Frequency
report describing the following, but not necessarily limited to, the following: the basis for the choice of the selected method(s), and the pollutants detectable by each method. The Discharger shall implement the selected method in accordance with Footnote No. 2,			

**V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS**

**A. Acute Toxicity (TUa)**

Compliance with acute toxicity objective (TUa) shall be determined using a U.S. EPA approved protocol as provided in 40 CFR PART 136 (*Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, October 2002, U.S. EPA Office of Water, EPA-821-R-02-012 or the latest edition).

Acute Toxicity (TUa) = 100/96-hr LC 50.

LC 50 (percent waste giving 50% survival of test organisms) shall be determined by 96-hour static or continuous flow bioassay techniques using standard marine test species as specified in EPA-821-R-02-012 and as noted in the following table.

**Table E-5. Approved Test - Acute Toxicity (TUa)**

Species	Scientific Name	Effect	Test Duration
shrimp	<i>Holmesimysis costata</i>	survival	48 or 96 hours
shrimp	<i>Mysidopsis bahia</i>	survival	48 or 96 hours
silversides	<i>Meridia beryllina</i>	survival	48 or 96 hours
sheepshead minnow	<i>Cyprinodon variegatus</i>	survival	48 or 96 hours

If the effluent is to be discharged to a marine or estuarine system (e.g., salinity values in excess of 1,000 mg/L) and originates from a freshwater supply, salinity of the effluent must be increased with dry ocean salts to match the receiving water salinity. This modified effluent shall then be tested using marine species.

Reference toxicant test results shall be submitted with the effluent sample test results. Both tests must satisfy the test acceptability criteria specified in EPA-821-R-02-012. If the test acceptability criteria are not achieved or if toxicity is detected, the sample shall be retaken and retested within 5 days of the failed sampling event. The retest results shall be reported in accordance with EPA-821-R-02-012 (chapter on report preparation) and the results shall be attached to the next monitoring report.

When it is not possible to measure the 96-hour LC50 due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:



$$TU_a = [\log(100 - S)]/1.7$$

where S = percentage survival in 100% waste. If S > 99, TU<sub>a</sub> shall be reported as zero.

When toxicity monitoring finds acute toxicity greater than the effluent limitation established by the Order, the Discharger shall immediately resample the effluent, if the discharge is continuing, and retest for acute toxicity. Results of the initial failed test and any toxicity monitoring results subsequent to the failed test shall be reported as soon as reasonable to the Executive Officer (EO). The EO will determine whether to initiate enforcement action, whether to require the Discharger to implement toxicity reduction evaluation (TRE) requirements (section VI.C.2.a of the Order), or to implement other measures.

## **B. Chronic Toxicity**

The presence of chronic toxicity shall be estimated as specified in Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms, EPA-821/600/R-95/136; Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, EPA-600-4-91-003; Procedures Manual for Conducting Toxicity Tests developed by the Marine Bioassay Project, SWRCB 1996, 96-1WQ; and/or Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, EPA/600/4-87-028 or subsequent editions.

Chronic toxicity measures a sub lethal effect to experimental test organisms exposed to an effluent compared to that of the control organisms.

Chronic Toxicity (TU<sub>c</sub>) = 100/NOEL.

The no observed effect level (NOEL) is the maximum tested concentration in a medium which does not cause known adverse effects upon chronic exposure in the species in question.

In accordance with the 2005 Ocean Plan, Appendix III, *Standard Monitoring Procedures*, the Discharger shall use the critical life stage toxicity tests specified in the table below to measure TU<sub>c</sub>. Other species or protocols will be added to the list after State Water Resources Control Board review and approval.

A minimum of three test species with approved test protocols shall be used to measure compliance with the toxicity objective. If possible, the

test species shall include a fish, an invertebrate, and an aquatic plant. After a screening period of no fewer than three tests, monitoring can be reduced to the most sensitive species. Dilution and control water should be obtained from an unaffected area of the receiving waters. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with the test results.

**Table E-6. Approved Tests—Chronic Toxicity**

Species	Test	Tier <sup>1</sup>	Reference <sup>2</sup>
Giant kelp, <i>Macrocystis pyrifera</i>	percent germination; germ tube length	1	a, c
Red abalone, <i>Haliotis rufescens</i>	abnormal shell development	1	a, c
Oyster, <i>Crassostrea gigas</i> ; mussels, <i>Mytilus spp.</i>	abnormal shell development; percent survival	1	a, c
Urchin, <i>Strongylocentrotus purpuratus</i> ; sand dollar, <i>Dendraster excentricus</i>	percent normal development	1	a, c
Urchin, <i>Strongylocentrotus purpuratus</i> ; sand dollar, <i>Dendraster excentricus</i>	percent fertilization	1	a, c
Shrimp, <i>Homesimysis costata</i>	percent survival; growth	1	a, c
Shrimp, <i>Mysidopsis bahia</i>	percent survival; fecundity	2	b, d
Topsmelt, <i>Atherinops affinis</i>	larval growth rate; percent survival	1	a, c
Silverside, <i>Menidia beryllina</i>	larval growth rate; percent survival	2	b, d

<sup>1</sup> First tier methods are preferred for compliance monitoring. If first tier organisms are not available, the Discharger can use a second tier test method following approval by the Regional Water Board.

<sup>2</sup> Protocol References:

- a. Chapman, G.A., D.L. Denton, and J.M. Lazorchak. 1995. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. U.S. EPA Report No. EPA/600/R-95/136.
- b. Klemm, D.J., G.E. Morrison, T.J. Norberg-King, W.J. Peltier, and M.A. Heber. 1994. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms. U.S. EPA Report No. EPA-600-4-91-003.
- c. SWRCB 1996. Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project. 96-1WQ.
- d. Weber, C.I., W.B. Horning, I.I., D.J. Klemm, T.W. Nieheisel, P.A. Lewis, E.L. Robinson, J. Menkedick and F. Kessler (eds). 1998. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-87/028. National Information Service, Springfield, VA.

Dilution and control waters shall be obtained from an area of the receiving waters, typically upstream, which is unaffected by the discharge. Standard dilution water can be used, if the receiving water itself exhibits toxicity or if approved by the Water Board. If the dilution water used in testing is different from the water in which the test organisms were cultured, a second control sample using culture water shall be tested.

If the effluent is to be discharged to a marine or estuarine system originates from a freshwater supply, salinity of the effluent must be increased with dry ocean salts to match salinity of the receiving water. This modified effluent shall then be tested using marine species.

For this discharge, the presence of chronic toxicity at more than 1 TUc shall trigger the Toxicity Reduction Evaluation requirements of the Order (section VI.C.2.a).

### **C. Toxicity Reporting**

1. The Discharger shall include a full report of toxicity test results with the regular monthly monitoring report and include the following information.
  - a. toxicity test results,
  - b. dates of sample collection and initiation of each toxicity test, and
  - c. acute and/or chronic toxicity discharge limitations (or value).
2. Toxicity test results shall be reported according to the appropriate guidance - Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, U.S. EPA Office of Water, EPA-821-R-02-012 (2002) or the latest edition, or Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, EPA-821-R-02-012 (2002) or subsequent editions.
3. If the initial investigation TRE workplan is used to determine that additional (accelerated) toxicity testing is unnecessary, these results shall be submitted with the monitoring report for the month in which investigations conducted under the TRE workplan occurred.
4. Within 14 days of receipt of test results exceeding an acute or chronic toxicity discharge limitation, the Discharger shall provide written notification to the Executive Officer of:
  - a. Findings of the TRE or other investigation to identify the cause(s) of toxicity,
  - b. Actions the Discharger has taken/will take, to mitigate the impact of the discharge and to prevent the recurrence of toxicity.

When corrective actions, including a TRE, have not been completed, a schedule under which corrective actions will be implemented, or the reason for not taking corrective action, if no action has been taken.

**VI. LAND DISCHARGE MONITORING REQUIREMENTS**

This section of the standardized permit form is not applicable to this Discharger.

**VII. RECLAMATION MONITORING REQUIREMENTS**

The Discharger shall comply with applicable State and local monitoring requirements regarding the production and use of reclaimed wastewater, including requirements established by the Department of Health Services at title 22, sections 60301 - 60357 of the California Code of Regulations, Water Recycling Criteria.

**VIII. RECEIVING WATER MONITORING REQUIREMENTS**

**A. Shoreline Bacteria Monitoring (Triggered) – Monitoring Locations A through G**

Sampling interval shall be monthly for 30-foot depth contour stations and shore stations, with more frequent sampling, at 5 times in a 30-day period, triggered when samples exceed 1000MPN/100 mL for total coliform, 400mpn/100 mL for fecal coliform, or 104MPN/100 mL for Enterococcus at any 30-foot depth contour station. Within 48 hours of the triggering event, the more frequent sampling shall be initiated at all 30-foot depth contour stations and shore stations. Sampling shall continue at this increased frequency until the geometric mean of the most recent 5 samples from each station fall below 1000MPN/100 mL for total coliform, 200MPN/100 mL for fecal coliform, or 104MPN/100 mL for Enterococcus, as appropriate for the bacterial indicator that triggered the increased sampling.

**Table E-7. Triggered Shoreline Bacteria Monitoring Schedule**

Parameter	Units	Sampling Station	Sampling Frequency
Total and Fecal Coliform Bacteria <sup>1,2,4</sup>	MPN/100mL	At Shore Stations <sup>4</sup> and at 30-ft depth contour directly off-shore of Shore Station locations	Monthly <sup>6</sup>
Enterococcus Bacteria <sup>1,3,4</sup>	MPN/100 mL	A-G	Monthly <sup>6</sup>
Visual Monitoring <sup>5</sup>	Narrative	A-G	Monthly <sup>6</sup>

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- <sup>[1]</sup> For all bacterial analyses, sample dilutions shall be performed so the range of values extends from 200 to 160,000 MPN/100ml. The detection methods used for each analysis shall be reported with the results of the analysis.
- <sup>[2]</sup> Analytical methods used for coliforms (total and fecal) shall be those presented in Table 1A of 40 CFR136, unless alternate methods have been approved in advance by US EPA pursuant to 40 CFR136.
- <sup>[3]</sup> Analytical methods used for enterococcus shall be those presented in EPA publication EPA 600/4-85/076, *Test Methods for Escherichia coli and Enterococci in Water by Membrane Filter Procedure*, or any improved method determined by the Regional Board (and approved by EPA) to be appropriate.
- <sup>[4]</sup> If a single sample exceeds any of the bacteriological single sample maximum (SSM) standards contained within section V.A.1 of the Order, repeat sampling at that location shall be conducted to determine the extent and persistence of the exceedance. Repeat sampling shall be conducted within 24 hours of receiving analytical results and continued daily until the sample result is less than the SSM standard or until a sanitary survey is conducted to determine the source of the high bacterial densities. When repeat sampling is required because of an exceedance of any one single sample density, values from all samples collected during that 30-day period will be used to calculate the geometric mean. Shore stations (immediately inshore of 30-foot contour sites) shall be sampled concurrent with 30-foot contour repeat sampling.
- <sup>[5]</sup> Visual monitoring shall include observations of wind (direction and speed), weather (e.g., cloudy, sunny, rainy), antecedent rainfall (7-day), sea state, and tidal conditions (e.g., high, slack, or low tide). Observations of water discoloration, floating oil and grease, turbidity, odor, material of sewage origin in the water or on the beach, and temperature (°C) shall be recorded and reported.
- <sup>[6]</sup> Until the Executive Officer agrees that normal sampling can resume.

Latitude and longitude shall be provided for all stations when reporting.

## **IX. OTHER MONITORING REQUIREMENTS**

### **A. Central Coast Long-Term Environmental Assessment Network (CCLEAN)**

1. The Discharger shall participate in the implementation of the CCLEAN Regional Monitoring Program in order to fulfill receiving water compliance monitoring requirements and support the following CCLEAN Program objectives.
  - a. Obtain high-quality data describing the status and long-term trends in the quality of nearshore waters, sediments, and associated beneficial uses.
  - b. Determine whether nearshore waters and sediments are in compliance with the Ocean Plan.
  - c. Determine sources of contaminants to nearshore waters.
  - d. Provide legally defensible data on the effects of wastewater discharges in nearshore waters.

- e. Develop a long-term database on trends in the quality of nearshore waters, sediments, and associated beneficial uses.
- f. Ensure that the nearshore component database is compatible with other regional monitoring efforts and regulatory requirements.
- g. Ensure that nearshore component data are presented in ways that are understandable and relevant to the needs of stakeholders.

The CCLEAN Quality Assurance Project Plan (QAPP) shall be revised and submitted by **July 1, 2008** to the Water Board Quality Assurance Officer for approval, and thereafter as necessary each year to reflect any program adjustments. A detailed technical study design and a description of the specific contents of the CCLEAN Annual Report shall be provided as a component of the CCLEAN QAPP. Revisions to the QAPP to be submitted by July 1, 2008 include the following:

- 1) Detailed description of high volume water sampling (HVWS) method or methods to be employed by the CCLEAN program for compliance determination of Table B pollutants, and the implementation of all other pollutant monitoring requirements contained within this Order, as appropriate, and the basis for the choice of the selected method(s);
- 2) Identification of the specific pollutants to be sampled using HVWS,
- 3) Identification of Table B and other pollutants to be sampled using conventional grab sampling approaches (rather than HVWS), if any;
- 4) Description of analytical methods and method quality objectives (in accordance with 40 CFR 136 or as allowable per the Implementation Provisions for Table B contained in section III.C.5.b of the Ocean Plan);
- 5) Sampling design, protocols, analytical requirements and method quality objectives for a proven integrative biological method to monitor the effects of endocrine disrupting compounds; and
- 6) Sampling design, protocols, analytical requirements, and method quality objectives for a two-year screening study for polyfluorinated compounds (PFCs).

Any year-to-year modifications to the program shall be identified in the QAPP. QAPP modifications shall be made consistent with SWAMP QAPP format requirements. The QAPP will also include program components funded by other participant agencies and organizations. A detailed technical study design description, including specific location of sampling sites and a description of the specific contents of the CCLEAN Annual Report, shall be provided as a component of the CCLEAN QAPP. The

QAPP will also include program components funded by other participant agencies and organizations.

General discharger components of the first phase of the CCLEAN Program are outlined in Table E-8, below.

2. General discharger components of the first phase of the CCLEAN Program are outlined in the following table. The CCLEAN Quality Assurance Project Plan (QAPP) will be revised as necessary each year to reflect any program adjustments and submitted to the Water Board Quality Assurance Officer for approval prior to initiation of CCLEAN sampling. A detailed technical study design description, including specific location of sampling sites and a description of the specific contents of the CCLEAN Annual Report, shall be provided as a component of the CCLEAN QAPP. Any year-to-year modifications to the program (including implementation of subsequent program phases) shall be identified in this document. The QAPP will also include program components funded by other participant agencies and organizations.

**Table E-8. CCLEAN Monitoring Requirements**

Sampling Sites	Parameters Sampled at Each Site	Frequency of Sampling	Applicable Water-Quality Stressors	Program Objectives
<b>Water Sampling</b>				
Four outfall sites (Santa Cruz, Watsonville, Monterey, Carmel) in effluent	30-day flow proportioned samples using automated pumping equipment, solid-phase-extraction techniques for: 1) persistent organic pollutants including PBDE, and weekly grab samples of effluent for 2) ammonia, silica, orthophosphate, urea, and nitrate, 3) turbidity and suspended sediment, 4) temperature, conductivity, and ph	Twice per year (wet season and dry season)	Persistent Organic Pollutants Nutrients Suspended Sediments	d
30-ft contour sites for each major discharge and sites sampled for AB 411	Grabs for total and fecal coliform, enterococcus <sup>1</sup>	Monthly	Pathogens	a, b, c, d
<b>Sediment Sampling</b>				
Four depositional sites and four background sites along 80-m contour	Single samples for benthic infauna, persistent organic pollutants including PBDE, total organic carbon and grain size	Annually	Persistent Organic Pollutants (and effects of)	a, b

<b>Mussel Sampling</b>				
5 rocky intertidal sites	One composite of 30-40 mussels for persistent organic pollutants including PBDE, total and fecal coliform, and enterococcus	Annually (wet season)	Persistent Organic Pollutants Pathogens	a, b, c

**B. Solids/Biosolids Monitoring**

1. The following information shall be submitted with the Annual Report required by X.B.5.d, below (or Standard Provision C.16).

a. Volume of biosolids removed, % moisture, and disposal and/or reuse destination. Order or permit number (if applicable) for the biosolids destination shall also be provided.

b. Representative sample of biosolids removed for disposal and/or reuse shall be analyzed for the following pollutants:

- |                |          |            |
|----------------|----------|------------|
| Arsenic        | Cadmium  | Copper     |
| Lead           | Mercury  | Molybdenum |
| Nickel         | Selenium | Zinc       |
| Total Nitrogen |          |            |

c. Biosolids shall be identified as Class A or Class B (in accordance with criteria specified at 40CFR 503). The basis for classification shall also be described.

d. Pathogen reduction and vector attraction reduction achievement methods shall be described in adequate detail to demonstrate compliance with 40CFR 503.32.

e. If no biosolids are removed from the facility during the reporting period (the year), then the Discharger shall include such statement in the Annual Report required by X.B.5.d, below (or Standard Provision C.16).

**X. REPORTING REQUIREMENTS**

**A. General Monitoring and Reporting Requirements**

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



**B. Self Monitoring Reports (SMRs)**

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (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 there will be service interruption for electronic submittal.
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. 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.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

**Table E-9. Monitoring Periods and Reporting Schedule**

Sampling Frequency	Monitoring Period Begins On ...	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	Submit with monthly SMR
Hourly	Permit effective date	Hourly	Submit with monthly SMR
Daily	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	Submit with monthly SMR
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1 <sup>st</sup> day of calendar month through last day of calendar month	Submit with monthly SMR
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	Submit with next monthly SMR
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	Submit with next monthly SMR
Annually	January 1 following (or on) permit effective date	January 1 through December 31	Submit with Annual Report

4. Reporting Protocols. The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 40CFR 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 reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the reported ML, 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 facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is 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:

Central Coast Regional Water Quality Control Board  
895 Aerovista Place, Suite 101  
San Luis Obispo, California 93401

- d. An Annual Self Monitoring Report shall be due on February 1 following each calendar year and shall include:
  - Tabular and graphical summaries of the monitoring data obtained during the preceding year. Duplicate copies of monthly reports are not necessary and do not fulfill requirements for "summaries".
  - A discussion of any incident of non-compliance and corrective actions taken to ensure compliance is restored.
  - List of facility staff and corresponding certification levels.
  - Summary of biosolids monitoring, as described above.
  - Summary of collection system management plans, or reference report submitted under separate cover as required by this or separate sanitary sewer requirements.

### **C. Discharge Monitoring Reports (DMRs)**

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (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 the address listed below:

State Water Resources Control Board  
Discharge Monitoring Report Processing Center  
Post Office Box 671  
Sacramento, CA 95812

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 or modified cannot be accepted.

**D. Other Reports**

1. The Discharger shall report the results of any special monitoring, TREs, or other data or information that results from the Special Provisions, section VI. C, of the Order. The Discharger shall submit such reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date.

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