June 16, 2015

Mr. Enrique Zaldivar, Director
Department of Public Works
City of Los Angeles
1149 South Broadway Street, 9th Floor
Los Angeles, CA 90015-2213

ADOPTED WASTE DISCHARGE REQUIREMENTS (WDRs) AND NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FOR CITY OF LOS ANGELES, TERMINAL ISLAND WATER RECLAMATION PLANT (NPDES NO. CA0053856, CI NO. 2171)

Dear Mr. Zaldivar:

The Regional Water Quality Control Board, Los Angeles Region (Regional Water Board) staff transmitted a letter containing the revised tentative WDRs and NPDES permit for the City of Los Angeles' Terminal Island Water Reclamation Plant on June 03, 2015.

In accordance with administrative procedures, the Regional Water Board at a public hearing held on June 11, 2015, reviewed the revised tentative requirements, and considered all the factors in the case, and adopted WDRs and NPDES Order No. **R4-2015-0119**.

The complete adopted Order will be sent only to the Permittee. However, these documents are available on the Regional Water Board's website for review. The Regional Water Board's web address is www.waterboards.ca.gov/losangeles/.

If you have any questions, please contact me at (213) 620-2083 or Steven Webb at (213) 576-6793.

Sincerely,

Cris Morris, P.E., Chief
Municipal Permitting Unit (NPDES)

Enclosures
Adopted Order No. R4-2015-0119

cc: Environmental Protection Agency, Region 9, Permits Branch (WTR-5)
NOAA, National Marine Fisheries Service
Department of Interior, U.S. Fish and Wildlife Service

State Water Resources Control Board
State Water Resources Control Board, Division of Drinking Water
Department of Fish and Wildlife, Region 5
California State Parks and Recreation
California Coastal Conservancy
California Coastal Commission, South Coast Region
Heal the Bay
Environment Now
Natural Resources Defense Council
U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service
Los Angeles County Department of Public Works
Southern California Coastal Water Research Project
Los Angeles Waterkeeper
United Water
City of Los Angeles
Los Angeles County Sanitation Districts
Surfriders Foundation

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

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ORDER R4-2015-0119
NPDES NO. CA0053856

WASTE DISCHARGE REQUIREMENTS FOR THE CITY OF LOS ANGELES TERMINAL ISLAND WATER RECLAMATION PLANT LOS ANGELES COUNTY DISCHARGE TO LOS ANGELES OUTER HARBOR VIA OUTFALL 001

The following Permittee is subject to Waste Discharge Requirements set forth in this Order:

Table 1. Discharger Information

Discharger	City of Los Angeles (City, Permittee, or Discharger)
Name of Facility	Terminal Island Water Reclamation Plant (TIWRP or Facility)
Facility Address	445 Ferry Street
	San Pedro, CA 90731-7493
	Los Angeles County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Tertiary treated effluent and brine waste	33.722725 N	118.242603 W	Los Angeles Outer Harbor

Table 3. Administrative Information

This Order was adopted on:	June 11, 2015
This Order shall become effective on:	August 1, 2015
This Order shall expire on:	July 31, 2020
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDR's in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	180 days prior to the Order expiration date
The United States Environmental protection Agency and the California Regional Water Quality Control Board, Los Angeles Region have classified this discharge as follows:	Major

I, Samuel Unger, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on June 11, 2015.

Samuel Unger

Samuel Unger, P.E., Executive Officer

Adopted: 06/11/15

Contents

Tables

Attachments

I. FACILITY INFORMATION

Information describing the Terminal Island Water Reclamation Plant (TIWRP) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

II. FINDINGS

The California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board), finds:

A. Legal Authorities. This Order serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the California Water Code (CWC; commencing with section 13260).This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the United States Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the CWC (commencing with section 13370). It shall serve as a National Pollutant Discharge Elimination System (NPDES) permit for point source discharges from this facility to surface waters.

B. 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 the requirements in this Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through E and G through I are also incorporated into this Order.

C. Notification of Interested Parties. The Regional Water Board has notified the City of Los Angeles (City) and interested agencies and persons of its intent to prescribe WDRs 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.

D. Provisions and Requirements Implementing State Law. Some of the provisions/requirements in this Order and the Monitoring and Reporting Program (MRP) are included to implement state law only. These provisions/requirements are not mandated or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies available for NPDES violations.

E. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to this Order. Details of the Public Hearing are provided in the Fact Sheet.

THEREFORE, IT IS HEREBY ORDERED that this Order supersedes Order No. R4-2010-0071 except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the CWC (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Permittee is authorized to discharge from the identified facility and outfalls into waters of the United States and shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking enforcement action for past violations of the previous Order.

III. DISCHARGE PROHIBITIONS

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

B. The bypass or overflow of untreated wastewater or wastes to surface waters or surface water drainage courses is prohibited, except as allowed in Standard Provision I.G. of Attachment D, Standard Provisions.

C. The monthly average effluent dry weather discharge flow rate from the collection system to the headworks of the Facility shall not exceed the dry weather design capacity of 30 million gallons per day (mgd) and an instantaneous maximum of 66 mgd during wet weather storm events.

D. The Permittee shall not cause degradation of any water supply, except as consistent with State Water Board Resolution No. 68-16.

E. The treatment or disposal of wastes from the Facility shall not cause pollution or nuisance as defined in section 13050, subdivisions (l) and (m) of the CWC.

F. The discharge of any substances in concentrations toxic to animal or plant is prohibited.

G. The discharge of any radiological, chemical, or biological warfare agent into the waters of the state is prohibited under Water Code section 13375.

H. The discharge of treated municipal wastewater to the Harbor is generally prohibited by 2020 with the exception of brine waste and the occasional discharge of tertiary-treated municipal wastewater. Tertiary-treated municipal wastewater is only permitted to be discharged to the Harbor in the following situations when there is no other feasible alternative as determined by the Executive Officer of the Regional Water Board: when the tertiary-treated final effluent has been treated at the Advanced Water Purification Facility (AWPF) but does not comply with the groundwater recharge requirements or other Title 22 recycling criteria but complies with all NPDES permit requirements, emergency situations, fluctuations in recycled water demand, scheduled and unscheduled maintenance activities of the AWPF[1], and when tertiary-treated final effluent flows from the TIWRP exceed the AWPF capacity. Beginning in 2020, a detailed description of the discharges to the Los Angeles Outer Harbor (Harbor) associated with any of the above exceptions shall be reported in the monthly SMR per Section XI.C.3. of the MRP, and include flow rate, time the discharge occurred, how long the discharge persisted, type of discharge, and reason for the discharge. Until the discharge of treated municipal wastewater is eliminated, the following requirements of Section IV. apply.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Final Effluent Limitations – Discharge Point 001

The Permittee shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the MRP, Attachment E:

[1] The Permittee shall ensure that enough redundancy exists at the AWPF that scheduled and unscheduled maintenance activities will not typically require the shut-down of the entire facility.

Table 4. Final Effluent Limitations

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instant-aneous Minimum	Instant-aneous Maximum	Annual Average
Biochemical Oxygen Demand ($BOD_5$20°C)	mg/L	15	30	40	--	--	--
	lbs/day[2]	3,800	7,500	10,000	--	--	--
Total Suspended Solids (TSS)	mg/L	15	30	40	--	--	--
	lbs/day[2]	3,800	7,500	10,000	--	--	--
pH	standard units	--	--	--	6.5	8.5	--
Oil and Grease	mg/L	10	--	15	--	--	--
	lbs/day[2]	2,500	--	3,800	--	--	--
Settleable Solids	mL/L	0.1	--	0.3	--	--	--
Total Residual Chlorine	mg/L	--	--	0.1[3]	--	--	--
	lbs/day[2]	--	--	25			
Ammonia Nitrogen[4]	mg/L	28	--	85	--	--	--
	lbs/day[2]	7,000	--	21,000	--	--	--
Methylene Blue Active Substances (MBAS)[4]	mg/L	33	--	--	--	--	--
	lbs/day[2]	8,200	--	--	--	--	--
2,3,7,8-TCDD[5] (Dioxin)	pg/L	0.014	--	0.027	--	--	--
	lbs/day[6]	3.5×10^{-6}	--	6.8×10^{-6}	--	--	--
Copper[7]	µg/L	102	--	230	--	--	--

[2] The mass emission rates are based on the plant design flow rate of 30 mgd, and are calculated as follows: Flow (mgd) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

[3] For continuous total residual chlorine recording devices that require greater than one minute to level off after the detection of a spike: if it can be demonstrated that a stoichiometrically appropriate amount of dechlorination chemical has been added to effectively dechlorinate the effluent to 0.1 mg/L or less, then the exceedance over one minute, but not for more than five minutes, will not be considered to be a violation.

[4] This constituent is granted with the dilution credit of 65.

[5] These final effluent limitations do not consider dilution; however, the Regional Water Board may consider applying dilution after the City submits quarterly receiving water data for dioxin for one year.

[6] The mass emission rate is based on the plant design flow rate of 30 mgd, and is calculated as follows: Flow (mgd) x Concentration (pg/L) x 0.00000834 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

[7] The concentration-based final effluent limitations for copper are granted with a dilution credit of 65.

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instant-aneous Minimum	Instant-aneous Maximum	Annual Average
Copper	lbs/day[8]	26	--	58	--	--	--
Copper[9]	kg/yr	--	--	--	--	--	80.4
Lead[9]	kg/yr	--	--	--	--	--	183.6
Zinc[9]	kg/yr	--	--	--	--	--	1,845
Total PAHs[9]	kg/yr	--	--	--	--	--	1.056
Total DDT[9]	g/yr	--	--	--	--	--	12.7
Total PCBs[9]	g/yr	--	--	--	--	--	0.37
Cyanide[4]	µg/L	10.4	--	21	--	--	--
	lbs/day[8]	2.6	--	5.3	--	--	--

[8] The mass emission rate is based on the plant design flow rate of 30 mgd, and is calculated as follows: Flow (mgd) x Concentration (µg/L) x 0.00834 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

[9] The Harbor Toxics TMDL assigns concentration-based WLAs to some responsible parties and mass-based WLAs to others. The WLAs assigned to the Terminal Island WRP are mass-based. The TMDL may be modified when the TMDL WLAs are reconsidered in 2018. Studies may be conducted to determine the portion of the discharged pollutants deposited on bed sediment. This permit requires that the City submit a work plan and complete a study prior to the 2018 reconsideration if the City wishes there to be further consideration of the impact of their discharge on adjacent sediments and revisions to WLAs. The results of any such Executive Officer approved studies shall be evaluated at the TMDL reconsideration (Item 10 of the Harbor TMDL Implementation Schedule) to modify these WLAs as appropriate. If a revised WLA is warranted and is fully approved through the basin planning process, the effluent limit(s) can then be revised in the permit. The effective date of the final effluent limitations based on the Harbor Toxics TMDL will be determined after the reconsideration of the TMDL WLAs and will consider the timing for any remedies, if applicable.

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instant-aneous Minimum	Instant-aneous Maximum	Annual Average
Chronic Toxicity[4,10,11]	Pass or Fail, % Effect (Test of Significant Toxicity (TST))	Pass[12]	--	Pass or % Effect < 50	--	--	--

B. Interim Effluent Limitations – Discharge Point 001 - Not Applicable

C. Other Effluent Limitations – Discharge Point 001

1. **Percent Removal:** The average monthly percent removal of BOD 5-day 20°C and TSS shall not be less than 85 percent.
2. **Temperature:** The temperature of wastes discharged shall not exceed 86°F except as a result of external ambient temperature.
3. **Turbidity[13]:** For the protection of the water contact recreation beneficial use, the wastes discharged to water courses shall have received adequate treatment, so that the

[10] A numeric Water Quality Based Effluent Limitation (WQBEL) is established because effluent data showed that there was reasonable potential for the effluent to cause or contribute to an exceedance of the chronic toxicity water quality objective. The Chronic Toxicity final effluent limitation is protective of both the numeric acute toxicity and the narrative toxicity Basin Plan water quality objectives. This final effluent limitation will be implemented using *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995), current USEPA guidance in the *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, June 2010) (*http://water.epa.gov/polwaste/npdes/basics/upload/wet_final_tst_implementation2010.pdf*) and *EPA Regions 8, 9, and 10, Toxicity Training Tool* (January 2010), (http://www2.epa.gov/sites/production/files/documents/ToxTrainingTool10Jan2010.pdf).

[11] The Median Monthly Effluent Limitation (MMEL) shall be reported as "Pass" or "Fail". The Maximum Daily Effluent Limitation (MDEL) shall be reported as "Pass" or Fail" and "% Effect". The MMEL for chronic toxicity shall only apply when there is a discharge more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests may be conducted when one toxicity test results in "Fail".

[12] This is a Median Monthly Effluent Limitation.

[13] These turbidity limits were based on section 60301.320 of Title 22, Chapter 3, "Filtered Wastewater" of the California Code of Regulations and may not be appropriate as more brine and less tertiary effluent is discharged to the Los Angeles Harbor. In order to develop a new limit based on the Basin Plan objectives, additional information is required for the turbidity of the receiving water. The City will conduct a study to obtain necessary data to determine the natural turbidity of the Harbor and assess what limits would be appropriate based on the Basin Plan Objectives. The City will prepare and submit a draft work plan to the Regional Water Board for review and approval, prior to implementing the study. The City will submit all data and a final report to the Regional Water Board for review. Once the Regional Water Board is satisfied with the proposed limits and data presented by the Permittee, the permit limit for turbidity may be revised with Board approval.

turbidity of the wastewater does not exceed any of the following: (a) an average of 2 Nephelometric Turbidity Units (NTUs) within a 24-hour period; (b) 5 NTUs more than 5 percent of the time (72 minutes) within a 24-hour period; and (c) 10 NTU at any time.

D. Land Discharge Specifications – Not Applicable

E. Recycling Specifications – Not Applicable.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

The receiving water limitations are based on water quality objectives contained in the Basin Plan and are effective immediately. The discharge shall not cause the following in the Los Angeles Outer Harbor:

1. Bacterial Characteristics

   a. Water Contact Standards

      In marine waters designated for water contact recreation (REC-1), the waste discharged shall not cause the following bacterial standards to be exceeded in the receiving water outside the initial dilution zone.

      i. Geometric Mean Limits

         (1). Total coliform density shall not exceed 1,000/100 mL.

         (2). Fecal coliform density shall not exceed 200/100 mL.

         (3). Enterococcus density shall not exceed 35/100 mL.

      ii. Single Sample Limits

         (1). Total coliform density shall not exceed 10,000/100 mL.

         (2). Fecal coliform density shall not exceed 400/100 mL.

         (3). Enterococcus density shall not exceed 104/100 mL.

         (4). Total coliform density shall not exceed 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

      The geometric mean values should be calculated based on a statistically sufficient number of samples (generally not less than 5 samples equally spaced over a 30-day period).

If any of the single sample limits are exceeded, the Regional Water Board may require repeat sampling on a daily basis until the sample falls below the single sample limit in order to determine the persistence of the exceedance.

When repeat sampling is required because of an exceedance of any one single sample limit, values from all samples collected during that 30-day period will be used to calculate the geometric mean.

During a wet-weather event, storm water runoff will impact inshore and offshore stations. The day of rain (0.1 inch and greater) plus three following days' worth of bacteriological data should be excluded from Single Sample and Geometric mean limits.

b. Shellfish Harvesting Standards

At all areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the waste discharged shall not cause the following bacteriological standards to be exceeded:

The median total coliform concentration throughout the water column for any 30-day period shall not exceed 70 per 100 mL, and no more than 10 percent of the samples collected during any 30-day period shall exceed 230 per 100 mL.

2. Physical Characteristics

The waste discharged shall not:

a. cause floating particulates and oil and grease to be visible;

b. cause aesthetically undesirable discoloration on the surface of the receiving water;

c. significantly reduce the transmittance of natural light at any point outside the initial dilution zone; or,

d. change the rate of deposition of inert solids and the characteristics of inert solids in ocean sediments such that benthic communities are degraded.

3. Chemical Characteristics

The waste discharged shall not:

a. cause the dissolved oxygen concentration at any time to be depressed more than 10 percent from that which occurs naturally;

b. cause the receiving waters to contain any substance in concentrations that adversely affect any beneficial use;

c. change the pH of the receiving waters at any time more than 0.2 units from that which occurs naturally;

d. cause the dissolved sulfide concentration of waters in and near sediments to be significantly increased above that present under natural conditions;

e. contain individual pesticides or combinations of pesticides in concentrations that adversely affect beneficial uses;

f. cause the concentration of organic materials in marine sediments to be increased to levels that would degrade marine life;

g. contain nutrients at levels that will cause objectionable aquatic growths or degrade indigenous biota;

h. produce concentrations of substances in the receiving water that are toxic to or cause detrimental physiological responses in human, animal, or aquatic life; and,

i. cause a total residual chlorine exceeding 0.1 mg/L in the receiving water and shall not persist in the receiving water at any concentration that causes impairment of beneficial uses as a result of the discharge.

4. Biological Characteristics

The waste discharged shall not:

a. degrade marine communities, including vertebrate, invertebrate, and plant species;

b. alter the natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption; and,

c. cause the concentration of organic materials in fish, shellfish or other marine resources used for human consumption to bioaccumulate to levels that are harmful to human health.

d. contain substances that result in a biochemical oxygen demand that adversely affect the beneficial uses of the receiving water.

5. Radioactivity

Discharge of radioactive waste shall not degrade marine life.

6. Acute Toxicity Trigger Requirements

a. The acute toxicity of the receiving water, at Stations HW23 and HW33, located east and west of the discharge, respectively, shall be such that: (i) the average survival in the undiluted receiving water for any three consecutive 96-hour static-renewal, or continuous flow bioassay tests shall be at least 90%, and (ii) no single test shall produce less than 70% survival. Static-renewal bioassay tests may be used as allowed by the most current USEPA test method for measuring acute toxicity.

b. The Permittee shall conduct acute toxicity monitoring as specified in Section IX.C of Attachment E – Monitoring and Reporting Program.

7. Chronic Toxicity Narrative Receiving Water Quality Objective

a. There shall be no chronic toxicity in ambient waters as a result of wastes discharged.

b. Receiving water and effluent toxicity testing shall be performed on the same day or as close to concurrently as possible.

8. The wastes discharged shall not cause the ammonia water quality objective in the Basin Plan to be exceeded in the receiving waters. Compliance with the ammonia water quality objectives shall be determined by comparing the receiving water ammonia concentration to the ammonia water quality objective in the Basin Plan. The ammonia water quality objective can also be calculated using the pH and temperature of the receiving water at the time of collection of the ammonia sample.

B. Groundwater Limitations

Not applicable.

VI. PROVISIONS

A. Standard Provisions

1. The Permittee shall comply with all Standard Provisions included in Attachment D of this Order.

2. **Regional Water Board Standard Provisions**. The Permittee shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:

a. Neither the treatment nor the discharge of pollutants shall create a pollution, contamination, or nuisance as defined by section 13050 of the CWC.

b. Odors, vectors, and other nuisances of sewage or sludge origin beyond the limits of the treatment plant site or the sewage collection system due to improper operation of facilities, as determined by the Regional Water Board, are prohibited.

c. All facilities used for collection, transport, treatment, or disposal of wastes shall be adequately protected against damage resulting from overflow, washout, or inundation from a storm or flood having a recurrence interval of once in 100 years.

d. Collection, treatment, and disposal systems shall be operated in a manner that precludes or impedes public contact with wastewater.

e. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer of the Regional Water Board.

f. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.

g. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities or penalties established pursuant to any applicable state law or regulation under authority preserved by section 510 of the CWA.

h. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities or penalties to which the Permittee is or may be subject to under section 311 of the CWA.

i. Discharge of wastes to any point other than specifically described in this Order is prohibited.

j. The Permittee shall comply with all applicable effluent limitations, national standards of performance, toxic effluent standards, and all federal regulations established pursuant to sections 301, 302, 303(d), 304, 306, 307, 316, 403, and 405 of the federal CWA and amendments thereto.

k. These requirements do not exempt the operator of the waste disposal facility from compliance with any other laws, regulations, or ordinances which may be applicable; they do not legalize this waste disposal facility; and they leave unaffected any further restraints on the disposal of wastes at this site which may be contained in other statutes or required by other agencies.

l. A copy of these waste discharge specifications shall be maintained at the discharge Facility so as to be available at all times to operating personnel.

m. If there is any storage of hazardous or toxic materials or hydrocarbons at this Facility and if the Facility is not manned at all times, a 24-hour emergency response telephone number shall be prominently posted where it can easily be read from the outside.

n. The Permittee shall file with the Regional Water Board a Report of Waste Discharge at least 120 days before making any proposed change in the character, location or volume of the discharge.

o. In the event of any change in name, ownership, or control of these waste disposal facilities, the Permittee shall notify the Regional Water Board of such change and shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to the Regional Water Board, 30 days prior to taking effect.

p. The discharge of any waste resulting from the combustion of toxic or hazardous wastes to any waste stream that ultimately discharges to waters of the United States is prohibited, unless specifically authorized elsewhere in this Order.

q. The Permittee shall notify the Executive Officer in writing no later than 6 months prior to planned discharge of any chemical, other than the products previously

reported to the Executive Officer, which may be toxic to aquatic life. Such notification shall include:

i. Name and general composition of the chemical,

ii. Frequency of use,

iii. Quantities to be used,

iv. Proposed discharge concentrations, and

v. USEPA registration number, if applicable.

r. Violation of any of the provisions of this Order may subject the Permittee to any of the penalties described herein or in Attachment D of this Order, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalty may be applied for each kind of violation.

s. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this Facility, may subject the Permittee to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Permittee to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

t. The CWC provides that any person who violates a waste discharge requirement or a provision of the CWC is subject to civil penalties of up to $5,000 per day, $10,000 per day, or $25,000 per day of violation, or when the violation involves the discharge of pollutants, is subject to civil penalties of up to $10 per gallon per day or $25 per gallon per day of violation, or some combination thereof, depending on the violation, or upon the combination of violations. Violation of any of the provisions of the NPDES program or of any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combinations thereof, at the discretion of the prosecuting authority; except that only one kind of penalty may be applied for each kind of violation.

u. CWC section 13385(h)(i) requires the Regional Water Board to assess a mandatory minimum penalty of three-thousand dollars ($3,000) for each serious violation. Pursuant to CWC section 13385(h)(2), a “serious violation” is defined as any waste discharge that violates the effluent limitations contained in the applicable waste discharge requirements for a Group II pollutant by 20 percent or more, or for a Group I pollutant by 40 percent or more. Appendix A of 40 CFR § 123.45 specifies the Group I and II pollutants. Pursuant to CWC section 13385.1(a)(1), a “serious violation” is also defined as “a failure to file a discharge monitoring report required pursuant to section 13383 for each complete period of 30 days following the deadline for submitting the report, if the report is designed to ensure compliance with limitations contained in waste discharge requirements that contain effluent limitations.”

v. CWC section 13385(i) requires the Regional Water Board to assess a mandatory minimum penalty of three-thousand dollars ($3,000) for each violation whenever a person violates a waste discharge requirement effluent limitation in any period of six consecutive months, except that the requirement to assess the mandatory

minimum penalty shall not be applicable to the first three violations within that time period.

w. Pursuant to CWC section 13385.1(d), for the purposes of section 13385.1 and subdivisions (h), (i), and (j) of section 13385, "effluent limitation" means a numeric restriction or a numerically expressed narrative restriction, on the quantity, discharge rate, concentration, or toxicity units of a pollutant or pollutants that may be discharged from an authorized location. An effluent limitation may be final or interim, and may be expressed as a prohibition. An effluent limitation, for these purposes, does not include a receiving water limitation, a compliance schedule, or a best management practice.

x. CWC section 13387(e) provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this order, including monitoring reports or reports of compliance or noncompliance, or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained in this order shall be punished by a fine of not more than twenty-five thousand dollars ($25,000), imprisonment pursuant to subdivision (h) of Section 1170 of the Penal Code for 16, 20, or 24 months, or by both that fine and imprisonment. For a subsequent conviction, such a person shall be punished by a fine of not more than twenty-five thousand dollars ($25,000) per day of violation, by imprisonment pursuant to subdivision (h) of Section 1170 of the Penal Code for two, three, or four years, or by both that fine and imprisonment.

y. In the event the Permittee does not comply or will be unable to comply for any reason, with any prohibition, effluent limitation, or receiving water limitation of this Order, the Permittee shall notify the Chief of the Watershed Regulatory Section at the Regional Water Board by telephone (213) 576-6616, or by fax at (213) 576-6660 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing to the Regional Water Board within five days, unless the Regional Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a schedule of implementation. The written notification shall also be submitted via email with reference to CI-2171 to losangeles@waterboards.ca.gov. Other noncompliance requires written notification as above at the time of the normal monitoring report.

z. The Permittee shall comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to storm drain systems or other water courses under their jurisdiction; including applicable requirements in municipal storm water management program developed to comply with NPDES permits issued by the Regional Water Board to local agencies.

aa. Oil or oily material, chemicals, refuse, or other polluting materials shall not be stored or deposited in areas where they may be picked up by rainfall and carried

off of the property and/or discharged to surface waters. Any such spill of such materials shall be contained and removed immediately.

bb. Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. (Wat. Code § 1211.)

B. Monitoring and Reporting Program (MRP) Requirements

The Permittee shall comply with the MRP and future revisions thereto, in Attachment E.

C. Special Provisions

1. Reopener Provisions

a. This Order may be modified, revoked and reissued, or terminated for cause, including, but not limited to:

i. Violation of any term or condition contained in this Order;

ii. Obtaining this Order by misrepresentation, or by failure to disclose fully all relevant facts; or

iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the Permittee for an Order modification, revocation, and issuance or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

b. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity testing, monitoring of internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

c. This Order may be modified, in accordance with the provisions set forth in title 40 of the Code of Federal Regulations (40 CFR) parts 122 and 124 to include requirements for the implementation of a watershed protection management approach.

d. The Board may modify, or revoke and reissue this Order if present or future investigations demonstrate that the discharge(s) governed by this Order will cause, have reasonable potential to cause, or contribute to adverse impacts on beneficial uses or degradation of water quality of the receiving waters.

e. This Order may also be modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR parts 122.44, 122.62 to 122.64, 125.62, and 125.64. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order, endangerment to human health or the environment resulting from the permitted activity, or acquisition of newly obtained information which would have justified the application of different conditions if known at the time of Order adoption. The filing of a request by the Permittee for an Order modification, revocation

and issuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

f. This Order may be modified, in accordance with the provisions set forth in 40 CFR parts 122 to 124, and section 2.4.3 of the SIP, to include new minimum levels (MLs).

g. If an applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under section 307(a) of the CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in this Order, the Regional Water Board may institute proceedings under these regulations to modify or revoke and reissue the Orders to conform to the toxic effluent standard or prohibition.

h. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments, thereto, the Regional Water Board will revise and modify this Order in accordance with such standards.

i. This Order may be reopened and modified to add or revise effluent limitations as a result of future Basin Plan Amendments, such as an update of a water quality objective, the adoption of a site specific objective, or the adoption of a TMDL for the Dominguez Channel – Los Angeles/Long Beach Watershed Management Area.

j. This Order may be reopened and modified, to revise effluent limitations as a result of the delisting of a pollutant from the 303(d) list.

k. This Order will be reopened and modified to revise any and all of the chronic toxicity testing provisions and effluent limitations, to the extent necessary, to be consistent with the Toxicity Plan that is subsequently adopted by the State Water Board promptly after USEPA-approval of such Plan.

l. This Order will be reopened and modified to the extent necessary, to be consistent with new policies, a new state-wide plan, new laws, or new regulations.

m. This Order may be reopened in accordance with the provisions set forth in 40 CFR Parts 122.44(b)(1), 122.44(d)(1)(vi)(C)(4), 122.62 and 124.5(c)(2) to modify final effluent limitations, if at the conclusion of necessary studies conducted by the Permittee, the Regional Water Board determines that dilution credits, attenuation factors, water effects ratios, site specific objectives, or metal translators are warranted. If USEPA approves site-specific objectives for ammonia in downstream receiving water locations, this Order may be reopened to consider the site-specific objectives.

n. This order may be reopened and modified to include any new outfalls for which an Engineering Report and Report of Waste Discharge (ROWD) has been submitted.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Toxicity Reduction Requirements

The Permittee shall prepare and submit a copy of the Permittee's initial investigation Toxicity Reduction Evaluation (TRE) work plan in accordance with Monitoring and Reporting Program section VI.A.6.

b. Special Study for Constituents of Emerging Concern (CECs)

The Permittee shall complete the special study to investigate CECs in the effluent discharge. The Permittee shall follow the requirements of the work plan as discussed in the MRP and the Fact Sheet. Analysis under this section is for monitoring purposes only. Analytical results obtained for this study will not be used for compliance determination purposes, since the methods have not been incorporated into 40 CFR part 136.

c. **Treatment Plant Capacity**

The Permittee shall submit a written report to the Executive Officer of the Regional Water Board within 90 days after the "30-day (monthly) average" daily dry-weather flow equals or exceeds 75 percent of the design capacity of waste treatment and/or disposal facilities. The Permittee's senior administrative officer shall sign a letter, which transmits that report and certifies that the discharger's policy-making body is adequately informed of the report's contents. The report shall include the following:

i. The average daily flow for the month, the date on which the peak flow occurred, the rate of that peak flow, and the total flow for the day;

ii. The best estimate of when the monthly average daily dry-weather flow rate will equal or exceed the design capacity of the facilities; and,

iii. A schedule for studies, design, and other steps needed to provide additional capacity for waste treatment and/or disposal facilities before the waste flow rate equals the capacity of present units.

This requirement is applicable to those facilities which have not reached 75 percent of capacity as of the effective date of this Order. For those facilities that have reached 75 percent of capacity by that date but for which no such report has been previously submitted, such report shall be filed within 90 days of the issuance of this Order.

d. **Ammonia Receiving Water Monitoring Requirements**

The Permittee shall delineate the salinity, pH, temperature, and ammonia of the ambient receiving water conditions for stations specified in Section IX.A of the MRP.

3. Best Management Practices and Pollution Prevention

a. **Storm Water Pollution Prevention Plan (SWPPP) – Not Applicable**

b. **Spill Clean-up Contingency Plan (SCCP)**

Within 90 days of the effective date of this Order, the Permittee is required to submit a SCCP, which describes the activities and protocols to address clean-up of spills, overflows, and bypasses of untreated or partially treated wastewater from the Permittee's collection system or treatment facilities that reach water bodies, including dry channels and beach sands. At a minimum, the plan shall include sections on spill clean-up and containment measures, public notification, and monitoring. The Permittee shall review and amend the plan as appropriate after each spill from the Facility or in the service area of the Facility. The Permittee shall

include a discussion in the annual summary report of any modifications to the Plan and the application of the Plan to all spills during the year.

c. **Pollutant Minimization Program (PMP)**

Reporting protocols in the MRP describe sample results that are to be reported as Detected but Not Quantified (DNQ) or Not Detected (ND). Definitions for a reported ML and Method Detection Limit (MDL) are provided in Attachment A. These reporting protocols and definitions are used in determining the need to conduct a PMP as follows:

The Permittee 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; or, results of benthic or aquatic organism tissue sampling) that a pollutant is present in the effluent above an effluent limitation and either of the following is true:

i. The concentration of the pollutant is reported as DNQ and the effluent limitation is less than the reported ML; or,

ii. The concentration of the pollutant is reported as ND and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in the MRP.

The goal of the PMP shall be to reduce all potential sources of a pollutant through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the 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 (PPP), if required pursuant to CWC section 13263.3(d), shall be considered to fulfill the PMP requirements.

The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

iii. An annual review and semi-annual monitoring of potential sources of the reportable pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;

iv. Quarterly monitoring for the reportable pollutant(s) in the influent to the wastewater treatment system;

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

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

vii. An annual status report that shall be sent to the Regional Water Board including:

(1). All PMP monitoring results for the previous year;

(2). A list of potential sources of the reportable pollutant(s);

(3). A summary of all actions undertaken pursuant to the control strategy; and

(4). A description of actions to be taken in the following year.

4. Construction, Operation and Maintenance Specifications

a. Wastewater treatment facilities subject to this Order shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to CCR, title 23, division 3, chapter 26 (CWC sections 13625 – 13633).

b. The Permittee shall maintain in good working order a sufficient alternate power source for operating the wastewater treatment and disposal facilities. All equipment shall be located to minimize failure due to moisture, liquid spray, flooding, and other physical phenomena. The alternate power source shall be designed to permit inspection and maintenance and shall provide for periodic testing. If such alternate power source is not in existence, the Permittee shall halt, reduce, or otherwise control all discharges upon the reduction, loss, or failure of the primary source of power.

c. The Permittee shall provide standby or emergency power facilities and/or storage capacity or other means so that in the event of plant upset or outage due to power failure or other cause, discharge of raw or inadequately treated sewage does not occur.

5. **Special Provisions for Municipal Facilities (Publicly-Owned Treatment Works [POTWs] Only)**

a. **Sludge Disposal Requirements**

i. All sludge generated at the wastewater treatment plant must be disposed of, treated, or applied to land in accordance with federal regulations contained in 40 CFR part 503. These requirements are enforceable by USEPA.

ii. The Permittee is separately required to comply with the requirements in State Water Board Order No. 2004-10-DWQ, *General WDRs for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural and Land Reclamation Activities* for those sites receiving the Permittee's biosolids which a Regional Water Board has placed under this general order, and with the requirements in individual WDRs issued by a Regional Water Board for sites receiving the Permittee's biosolids.

iii. The Permittee shall separately comply, if applicable, with WDRs issued by other Regional Water Boards to which jurisdiction the biosolids are transported and applied.

iv. The Permittee shall ensure that haulers transporting sludge within the City's jurisdiction for treatment, storage, use, or disposal take all necessary

measures to keep the sludge contained. The Permittee shall maintain and have haulers adhere to a spill clean-up plan. Any spills shall be reported to USEPA and the Regional Water Board or state agency in which the spill occurred. All trucks hauling sludge shall be thoroughly washed after unloading at the field or at the receiving facility.

v. The Permittee shall furnish this Regional Water Board with a copy of any report submitted to USEPA, the State Water Board or other Regional Water Board, with respect to municipal sludge or biosolids.

b. **Pretreatment Requirements**

i. The Permittee has developed and implemented a Pretreatment Program that was previously submitted to this Regional Water Board. This Order requires implementation of the approved Pretreatment Program. Any violation of the Pretreatment Program will be considered a violation of this Order.

ii. Any change to the program shall be reported to the Regional Water Board in writing and shall not become effective until approved by the Executive Officer in accordance with procedures established in 40 CFR § 403.18

iii. Applications for renewal or modification of this Order must contain information about industrial discharges to the POTW pursuant to 40 CFR § 122.21(j)(6). Pursuant to 40 CFR § 122.42(b) and provision VII. A of Attachment D, Standard Provisions, of this Order, the Permittee shall provide adequate notice of any new introduction of pollutants or substantial change in the volume or character of pollutants from industrial discharges which were not included in the permit application. Pursuant to 40 CFR § 122.44(j)(1), the Permittee shall annually identify and report, in terms of character and volume of pollutants, any Significant industrial Users discharging to the POTW subject to Pretreatment Standards under section 307(b) of the CWA and 40 CFR § 403.

iv. The Permittee shall evaluate whether its pretreatment local limits are adequate to meet the requirements of this Order and shall submit a written technical report as required under section II of Attachment I. The Permittee shall submit to the Regional Board revised local limits, as necessary, for Regional Water Board approval. In addition, the Permittee shall consider collection system overflow protection from such constituents as oil and grease, etc.

v. The Permittee shall comply with requirements contained in Attachment I – Pretreatment Reporting Requirements.

c. **Collection System Requirements**

The Permittee's collection system is part of the system that is subject to this Order. As such, the Permittee must properly operate and maintain its collection system (40 CFR § 122.41(e)). The Permittee must report any non-compliance (40 CFR § 122.41(l)(6) and (7)) and mitigate any discharge from the collection system in

violation of this Order (40 CFR § 122.41(d)). See the Order at Attachment D, subsections I.D, V.E, V.H, I.C., and VII.C.6 of this Order.

d. **Filter Bypass**

Conditions pertaining to bypass are contained in Attachment D, Section I. Standard Provisions – Permit Compliance, subsection G. The bypass or overflow of untreated or partially treated wastewater to waters of the State is prohibited, except as allowed under conditions stated in 40 CFR part 122.41(m) and (n). Consistent with those provisions, during periods of elevated, wet-weather flows, the operational diversion of a portion of the secondarily treated wastewater around the tertiary filters is allowable provided that the resulting combined discharge of fully treated (tertiary) and partially treated (secondary) wastewater complies with the effluent and receiving water limitations in this Order.

6. **Spill Reporting Requirements**

a. **Initial Notification**

Although State and Regional Water Board staff do not have duties as first responders, this requirement is an appropriate mechanism to ensure that the agencies that do have first responder duties are notified in a timely manner in order to protect public health and beneficial uses. For certain spills, overflows and bypasses, the Permittee shall make notifications as required below:

i. In accordance with the requirements of Health and Safety Code section 5411.5, the Permittee shall provide notification to the local health officer or the director of environmental health with jurisdiction over the affected water body of any unauthorized release of sewage or other waste that causes, or probably will cause, a discharge to any waters of the state as soon as possible, but no later than two hours after becoming aware of the release.

ii. In accordance with the requirements of CWC section 13271, the Permittee shall provide notification to the California Office of Emergency Services (Cal OES) of the release of reportable amounts of hazardous substances or sewage that causes, or probably will cause, a discharge to any waters of the state as soon as possible, but not later than two hours after becoming aware of the release. The CCR, Title 23, section 2250, defines a reportable amount of sewage as being 1,000 gallons. The phone number for reporting these releases to the Cal OES is (800) 852-7550.

iii. The Permittee shall notify the Regional Water Board of any unauthorized release of sewage from its POTW that causes, or probably will cause, a discharge to a water of the state as soon as possible, but not later than two hours after becoming aware of the release. This initial notification does not need to be made if the Permittee has notified Cal OES and the local health officer or the director of environmental health with jurisdiction over the affected water body. The phone number for reporting these releases of sewage to the Regional Water Board is (213) 576-6657. The phone numbers for after hours and weekend reporting of releases of sewage to the Regional Water Board are (213) 305-2284 and (213) 305-2253.

At a minimum, the following information shall be provided to the Regional Water Board:

(1). The location, date, and time of the release;

(2). The route of the spill including the water body that received or will receive the discharge;

(3). An estimate of the amount of sewage or other waste released and the amount that reached a surface water at the time of notification;

(4). If ongoing, the estimated flow rate of the release at the time of the notification; and,

(5). The name, organization, phone number and email address of the reporting representative.

b. **Monitoring**

For spills, overflows and bypasses reported under section VII.C.6.a, the Permittee shall monitor as required below:

The Permittee shall obtain grab samples from the receiving water (if feasible, accessible, and safe) for all spills, overflows or bypasses of any volume that reach any waters of the state (including surface and ground waters). The Permittee shall analyze the samples for total coliform, fecal coliform, *E. coli* (if fecal coliform tests positive), enterococcus, and relevant pollutants of concern, upstream and downstream of the point of entry of the spill (if feasible, accessible, and safe). This monitoring shall be done on a daily basis from the time the spill is known until the results of two consecutive sets of bacteriological monitoring indicate the return to the background level or the County Department of Public Health authorizes cessation of monitoring.

c. **Reporting**

The initial notification required under section VII.C.6.a shall be followed by:

i. As soon as possible, but **not later than twenty-four hours** after becoming aware of an unauthorized discharge of sewage or other waste from its wastewater treatment plant to a water of the state, the Permittee shall submit a statement to the Regional Water Board by email at augustine.anijielo@waterboards.ca.gov. If the discharge is 1,000 gallons or more, this statement shall certify that Cal OES has been notified of the discharge in accordance with CWC section 13271. The statement shall also certify that the local health officer or director of environmental health with jurisdiction over the affected water bodies has been notified of the discharge in accordance with Health and Safety Code section 5411.5. The statement shall also include at a minimum the following information:

(1). Agency, NPDES No., Order No., and MRP CI No., if applicable;

(2). The location, date, and time of the discharge;

(3). The water body that received the discharge;

(4). A description of the level of treatment of the sewage or other waste discharged;

(5). An initial estimate of the amount of sewage or other waste released and the amount that reached a surface water;

(6). The Cal OES control number and the date and time that notification of the incident was provided to Cal OES; and,

(7). The name of the local health officer or director of environmental health representative notified (if contacted directly); the date and time of notification; and the method of notification (e.g., phone, fax, email).

ii. A written preliminary report five working days after disclosure of the incident is required. Submission to the Regional Water Board of the California Integrated Water Quality System (CIWQS) Sanitary Sewer Overflow (SSO) event number shall satisfy this requirement. Within 30 days after submitting the preliminary report, the Permittee shall submit the final written report to this Regional Water Board. (A copy of the final written report, for a given incident, already submitted pursuant to a statewide General WDRs for Wastewater Collection System Agencies (SSO WDR), may be submitted to the Regional Water Board to satisfy this requirement.) The written report shall document the information required in paragraph d below, monitoring results and any other information required in provisions of the Standard Provisions document including corrective measures implemented or proposed to be implemented to prevent/minimize future occurrences. The Executive Officer for just cause can grant an extension for submittal of the final written report.

iii. The Permittee shall include a certification in the annual summary report (due according to the schedule in the MRP) that states that the sewer system emergency equipment, including alarm systems, backup pumps, standby power generators, and other critical emergency pump station components were maintained and tested in accordance with the Permittee's preventive maintenance plan. Any deviations from or modifications to the plan shall be discussed.

d. **Records**

The Permittee shall develop and maintain a record of all spills, overflows or bypasses of raw or partially treated sewage from its collection system or treatment plant. This record shall be made available to the Regional Water Board upon request and a spill summary shall be included in the annual summary report. The records shall contain:

i. The date and time of each spill, overflow, or bypass;

ii. The location of each spill, overflow, or bypass;

iii. The estimated volume of each spill, overflow, and bypass including gross volume, amount recovered and amount not recovered, monitoring results as required by section VI.C.6.b;

iv. The cause of each spill, overflow, or bypass;

v. Whether each spill, overflow, or bypass entered a receiving water and, if so, the name of the water body and whether it entered via storm drains or other man-made conveyances;

vi. Any mitigation measures implemented;

vii. Any corrective measures implemented or proposed to be implemented to prevent/minimize future occurrences; and,

viii. The mandatory information included in SSO online reporting for finalizing and certifying the SSO report for each spill, overflow, or bypass under the SSO WDR.

e. **Activities Coordination**

Although not required by this Order, the Regional Water Board expects that the POTW's owners/operators will coordinate their compliance activities for consistency and efficiency with other entities that have responsibilities to implement: (i) this NPDES permit, including the Pretreatment Program, (ii) a MS4 NPDES permit that may contain spill prevention, sewer maintenance, reporting requirements and (iii) the SSO WDR.

f. **Consistency with SSO WDRs**

The CWA prohibits the discharge of pollutants from point sources to surface waters of the United States unless authorized under an NPDES permit. (33 United States Code sections 1311, 1342). The State Water Board adopted General Waste Discharge Requirements for Sanitary Sewer Systems, (WQ Order No. 2006-0003-DWQ; SSO WDR) on May 2, 2006, to provide a consistent, statewide regulatory approach to address sanitary sewer overflows. The SSO WDR requires public agencies that own or operate sanitary sewer systems to apply for coverage under the SSO WDR, develop and implement sewer system management plans, and report all SSOs to the State Water Board's online SSOs database. Regardless of the coverage obtained under the SSO WDR, the Permittee's collection system is part of the POTW that is subject to this NPDES permit. As such, pursuant to federal regulations, the Permittee must properly operate and maintain its collection system (40 CFR § 122.41 (e)), report any non-compliance (40 CFR § 122.41(1)(6) and (7)), and mitigate any discharge from the collection system in violation of this NPDES permit (40 CFR § 122.41(d)).

The requirements contained in this Order in sections VII.C.3.b (SCCP), VII.C.4 (Construction, Operation and Maintenance Specifications), and VII.C.6 (Spill Reporting Requirements) are intended to be consistent with the requirements of the SSO WDR. The Regional Water Board recognizes that there may be some overlap between these NPDES permit provisions and SSO WDR requirements, related to the collection systems. The requirements of the SSO WDR are considered the minimum thresholds (see finding 11 of State Water Board Order No. 2006-0003-DWQ). To encourage efficiency, the Regional Water Board will accept the documentation prepared by the Permittees under the SSO WDR for

compliance purposes as satisfying the requirements in sections VII.C.3.b, VII.C.4, and VII.C.6 provided the more stringent provisions contained in this NPDES permit are also addressed. Pursuant to SSO WDR, section D, provision 2(iii) and (iv), the provisions of this NPDES permit supersede the SSO WDR, for all purposes, including enforcement, to the extent the requirements may be deemed duplicative.

g. **Emergency Power Facilities**

The Permittee shall provide standby or emergency power facilities and/or storage capacity or other means so that in the event of a plant upset or outage due to power failure or other cause, discharge of raw or inadequately treated sewage does not occur.

7. Compliance Schedules

There are no compliance schedules included in this NPDES Order.

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 the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Permittee 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 a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of DNQ or ND, the Permittee 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.

C. Average Monthly Effluent Limitation (AMEL)

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Permittee may be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is collected during the calendar month and the analytical result for that sample exceeds the AMEL, the Permittee may be considered out of compliance for that calendar month. The Permittee will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is collected, no compliance determination can be made for that calendar month with respect to the AMEL.

If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, does not exceed the AMEL for a given parameter, the Permittee will have demonstrated compliance with the AMEL for each day of that month for that parameter.

If the analytical result of any single sample, monitored monthly, quarterly, semiannually, or annually, exceeds the AMEL for any parameter, the Permittee may collect up to four additional samples within the same calendar month. All analytical results shall be reported in the monitoring report for that month. The concentration of pollutant (an arithmetic mean or a median) in these samples estimated from the "Multiple Sample Data Reduction" section above, will be used for compliance determination.

In the event of noncompliance with an AMEL, the sampling frequency for that parameter shall be increased to weekly and shall continue at this level until compliance with the AMEL has been demonstrated.

D. Average Weekly Effluent Limitation (AWEL)

If the average of daily discharges over a calendar week exceeds the AWEL for a given parameter, an alleged violation will be flagged and the Permittee will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. The average of daily discharges over the calendar week that exceeds the AWEL for a parameter will be considered out of compliance for that week only. If only a single sample is collected during the calendar week and the analytical result for that sample exceeds the AWEL, the Permittee will be considered out of compliance for that calendar week. For any one calendar week during which no sample (daily discharge) is collected, no compliance determination can be made for that calendar week with respect to the AWEL.

A calendar week will begin on Sunday and end on Saturday. Partial calendar weeks at the end of calendar month will be carried forward to the next month in order to calculate and report a consecutive seven-day average value on Saturday.

E. Maximum Daily Effluent Limitation (MDEL)

If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the Permittee will be considered out of compliance for that parameter for that one day only within the reporting period. If no sample (daily discharge) is taken over a calendar day, no compliance determination can be made for that day with respect to effluent violation

determination, but compliance determination can be made for that day with respect to reporting violation determination.

F. Instantaneous Minimum Effluent Limitation

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, an alleged violation will be flagged and the Permittee will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples collected within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

G. Instantaneous Maximum Effluent Limitation

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, a violation will be flagged and the Permittee will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples collected within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

H. Six-month Median Effluent Limitation

If the median of daily discharges over any 180-day period exceeds the six-month median effluent limitation for a given parameter, an alleged violation will be flagged and the Permittee will be considered out of compliance for each day of that 180-day period for that parameter. The next assessment of compliance will occur after the next sample is collected. If only a single sample is collected during a given 180-day period and the analytical result for that sample exceeds the six-month median, the Permittee will be considered out of compliance for the 180-day period. For any 180-period during which no sample is collected, no compliance determination can be made for the six-month median effluent limitation.

I. Median Monthly Effluent Limitation (MMEL)

If the median of daily discharges over a calendar month exceeds the MMEL for a given parameter, an alleged violation will be flagged and the Permittee will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). However, an alleged violation of the MMEL will be considered one violation for the purpose of assessing State mandatory minimum penalties. If no sample (daily discharge) is collected over a calendar month, no compliance determination can be made for that month with respect to effluent violation determination, but compliance determination can be made for that month with respect to reporting violation determination.

J. Chronic Toxicity

The discharge is subject to determination of “Pass” or “Fail” and “Percent Effect” from a chronic toxicity test using the TST statistical t-test approach described in the *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (USEPA 833-R-10-003, 2010), Appendix A, Figure A-1, Table A-1, and Appendix B, Table B-1. The null hypothesis (Ho) for the TST statistical approach is: Mean discharge IWC response ≤0.75 × Mean control response. A test result that rejects this null hypothesis is reported as

"Pass." A test result that does not reject this null hypothesis is reported as "Fail." The relative "Percent Effect" at the discharge IWC is defined and reported as: ((Mean control response - Mean discharge IWC response) ÷ Mean control response)) × 100. This is a t-test (formally Student's t-test), a statistical analysis comparing two sets of replicate observations – in the case of a WET, only two test concentrations (i.e. a control and IWC). The purpose of this statistical test is to determine if the means of the two sets of observations are different (i.e. if the IWC or receiving water concentration differs from the control (the test result is "Pass" or "Fail")). The Welch's t-test employed by the TST statistical approach is an adaptation of Student's t-test and is used with two samples having unequal variances.

The Maximum Daily Effluent Limitation (MDEL) for chronic toxicity is exceeded and a violation will be flagged when a chronic toxicity test, analyzed using the TST statistical approach, results in "Fail" and the "Percent Effect" is ≥0.50.

The Median Monthly Effluent Limitation (MMEL) for chronic toxicity is exceeded and a violation will be flagged when the median of no more than three independent chronic toxicity tests, conducted within the same calendar month and analyzed using the TST statistical approach, results in "Fail." The MMEL for chronic toxicity shall only apply when there is a discharge on more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests may be conducted when one toxicity test results in "Fail."

The chronic toxicity MDEL and MMEL are set at the IWC for the discharge (1.6% effluent) and expressed in units of the TST statistical approach ("Pass" or "Fail", "Percent Effect"). All NPDES effluent compliance monitoring for the chronic toxicity MDEL and MMEL shall be reported using only the 1.6% effluent concentration and negative control, expressed in units of the TST. The TST hypothesis (Ho) (see above) is statistically analyzed using the IWC (1.6%) and a negative control. Effluent toxicity tests shall be run using a multi-concentration test design when required by *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995). The Regional Water Board's review of reported toxicity test results will include review of concentration-response patterns as appropriate (see Fact Sheet discussion at IV.C.5). The Percent Minimum Significant Difference (PMSD) criteria only apply to compliance reporting for the NOEC and the sublethal statistical endpoints of the NOEC, and therefore are not used to interpret TST results. Standard Operating Procedures used by the toxicity testing laboratory to identify and report valid, invalid, anomalous, or inconclusive effluent (and receiving water) toxicity test measurement results from the TST statistical approach, including those that incorporate a consideration of concentration-response patterns, must be submitted to the Regional Water Board (40 CFR 122.41(h)). The Regional Water Board will make a final determination as to whether a toxicity test result is valid, and may consult with the Permittee, USEPA, the State Water Board's Quality Assurance Officer, or the State Water Board's Environmental Laboratory Accreditation Program as needed.

K. Percent Removal

The average monthly percent removal is the removal efficiency expressed in percentage across a treatment plant for a given pollutant parameter, as determined from the 30-day average values of pollutant concentrations (C in mg/L) of influent and effluent samples collected at about the same time using the following equation:

Percent Removal (%) = $[1-(C_{Effluent}/C_{Influent})] \times 100$ %

When preferred, the Permittee may substitute mass loadings and mass emissions for the concentrations.

L. Mass and Concentration Limitations

Compliance with mass and concentration effluent limitations for the same parameter shall be determined separately with their respective limitations. When the concentration of a constituent in an effluent sample is determined to be ND or DNQ, the corresponding mass emission rate determined from that sample concentration shall also be reported as ND or DNQ.

M. Compliance with single constituent effluent limitations

Permittees may be considered out of compliance with the effluent limitation if the concentration of the pollutant (see section B "Multiple Sample Data Reduction" above) in the monitoring sample is greater than the effluent limitation and greater than or equal to the RL.

N. Compliance with effluent limitations expressed as a sum of several constituents

Permittees are out of compliance with an effluent limitation which applies to the sum of a group of chemicals (e.g., PCB's) if the sum of the individual pollutant concentrations is greater than the effluent limitation. Individual pollutants of the group will be considered to have a concentration of zero if the constituent is reported as ND or DNQ.

O. Compliance with 2,3,7,8-TCDD Equivalents

TCDD equivalents shall be calculated using the following formula, where the minimum Levels (MLs), and toxicity equivalency factors (TEFs) are as provided in the table below. The Permittee shall report all measured values of individual congeners, including data qualifiers. When calculating TCDD equivalents, the Permittee shall set congener concentrations below the minimum levels to zero. USEPA method 1613 may be used to analyze dioxin and furan congeners.

$$Dioxin\ Concentration = \sum_{1}^{17}(TEQi) = \sum_{1}^{17}(Ci)(TEFi)$$

Where:

Ci = individual concentration of a dioxin or furan congener

TEFi = individual TEF for a congener

Table 5. MLs and TEFs

Congeners	MLs (pg/L)	TEFs
2,3,7,8-TetraCDD	10	1.0
1,2,3,7,8-PentaCDD	50	1.0
1,2,3,4,7,8-HexaCDD	50	0.1
1,2,3,6,7,8-HexaCDD	50	0.1
1,2,3,7,8,9-HexaCDD	50	0.1
1,2,3,4,6,7,8-HeptaCDD	50	0.01
OctaCDD	100	0.0001
2,3,7,8-TetraCDF	10	0.1

Congeners	MLs (pg/L)	TEFs
1,2,3,7,8-PentaCDF	50	0.05
2,3,4,7,8-PentaCDF	50	0.5
1,2,3,4,7,8-HexaCDF	50	0.1
1,2,3,6,7,8-HexaCDF	50	0.1
1,2,3,7,8,9-HexaCDF	50	0.1
2,3,4,6,7,8-HexaCDF	50	0.1
1,2,3,4,6,7,8-HeptaCDFs	50	0.01
1,2,3,4,7,8,9-HeptaCDFs	50	0.01
OctaCDF	100	0.0001

P. Compliance with the *Total Maximum Daily Load for Toxic Pollutants in Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters* Effluent Limitations

The Terminal Island Water Reclamation Plant discharges to the Los Angeles Outer Harbor. The Los Angeles and Long Beach Harbors are on the CWA section 303(d) list for one or more of the following pollutants: cadmium, chromium, copper, mercury, lead, zinc, chlordane, dieldrin, toxaphene, DDT, PCBs, PAHs, benthic community effects, and toxicity. These impairments exist in one or more environmental media – water, sediment, or tissue. For this discharge, the Harbor Toxics TMDL has established mass-based interim and final WLAs for sediment, and concentration-based final WLAs for the receiving water. Federal regulations require that NPDES permits incorporate WQBELs consistent with the requirements and assumptions of any WLAs.

Q. Mass Emission Rate

The mass emission rate shall be obtained from the following calculation for any calendar day:

$$\text{Mass emission rate (lbs/day)} = \frac{8.34}{N}\sum_{i=1}^{N} Q_i C_i$$

$$\text{Mass emission rate (kg/day)} = \frac{3.79}{N}\sum_{i=1}^{N} Q_i C_i$$

in which 'N' is the number of samples analyzed in any calendar day. 'Q_i' and 'C_i' are the flow rate (mgd) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' grab samples, which may be collected on any calendar day. If a composite sample is taken, 'Ci' is the concentration measured in the composite sample and 'Qi' is the average flow rate occurring during the period over which samples are composited.

The daily concentration of all constituents shall be determined from the flow-weighted average of the same constituents in the combined waste streams as follows:

$$\text{Daily concentration} = \frac{1}{Q_t}\sum_{i=1}^{N} Q_i C_i$$

in which 'N' is the number of component waste streams. 'Qi' and 'Ci' are the flow rate (mgd) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' waste streams. 'Q_t' is the total flow rate of the combined waste streams.

R. Bacterial Standards and Analysis

1. The geometric mean used for determining compliance with bacterial standards is calculated with the following equation:

$$\text{Geometric Mean} = (C_1 \times C_2 \times \ldots \times C_3)^{1/n}$$

where n is the number of days samples were collected during the period and C is the concentration of bacteria (MPN/100 mL or CFU/100 mL) found on each day of sampling.

2. For bacterial analyses, sample dilutions should be performed so the expected range of values is bracketed (for example, with multiple tube fermentation method or membrane filtration method, 2 to 16,000 per 100 mL for total and fecal coliform, at a minimum, and 1 to 1000 per 100 mL for *enterococcus*). The detection methods used for each analysis shall be reported with the results of the analyses.

3. Detection methods used for coliforms (total and fecal) shall be those presented in Table 1A of 40 CFR part 136, unless alternate methods have been approved by USEPA pursuant to 40 CFR part 136, or improved methods have been determined by the Executive Officer and/or USEPA.

4. Detection methods used for enterococcus and shall be those presented in Table 1A of 40 CFR part 136 or in the USEPA 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 Executive Officer and/or USEPA to be appropriate.

S. Single Operational Upset (SOU)

A SOU that leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation and limits the Permittee's liability in accordance with the following conditions:

1. A SOU is broadly defined as a single unusual event that temporarily disrupts the usually satisfactory operation of a system in such a way that it results in violation of multiple pollutant parameters.

2. A Permittee may assert SOU to limit liability only for those violations which the Permittee submitted notice of the upset as required in Provision V.E.2 (b) of Attachment D – Standard Provisions.

3. For purpose outside of CWC section 13385 subdivisions (h) and (i), determination of compliance and civil liability (including any more specific definition of SOU, the requirements for Permittees to assert the SOU limitation of liability, and the manner of counting violations) shall be in accordance with USEPA Memorandum "Issuance of Guidance Interpreting Single Operational Upset" (September 27, 1989).

4. For purpose of CWC section 13385 (h) and (i), determination of compliance and civil liability (including any more specific definition of SOU, the requirements for Permittees to assert the SOU limitation of liability, and the manner of counting violations) shall be in accordance with CWC section 13385 (f)(2).

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:

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)
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)
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
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.

Biosolids
Sewage sludge that has been treated and tested and shown to be capable of being beneficially and legally used pursuant to federal and state regulators as a soil amendment for agricultural, silvicultural, horticultural, and land reclamation activities as specified under 40 C.F.R. Part 503.

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

Coefficient of Variation (CV)
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
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 the permit), 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 collected 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 collected 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)
DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dilution Credit
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)
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
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 the 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
The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries
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 included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in CWC 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
All surface waters of the state that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation
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
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)
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
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)
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 in 40 CFR part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML)
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
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)
Sample results which are less than the laboratory's MDL.

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

Pollutant Minimization Program (PMP)
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 CWC section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention
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 CWC 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 Water Resources Control Board (State Water Board) or Regional Water Board.

Reporting Level (RL)
The RL is the ML (and its associated analytical method) chosen by the Permittee for reporting and compliance determination from the MLs included in this Order, including an additional factor if applicable as discussed herein. 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 Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. 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
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 wastewater treatment facility that a sanitary sewer system is tributary to.

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

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

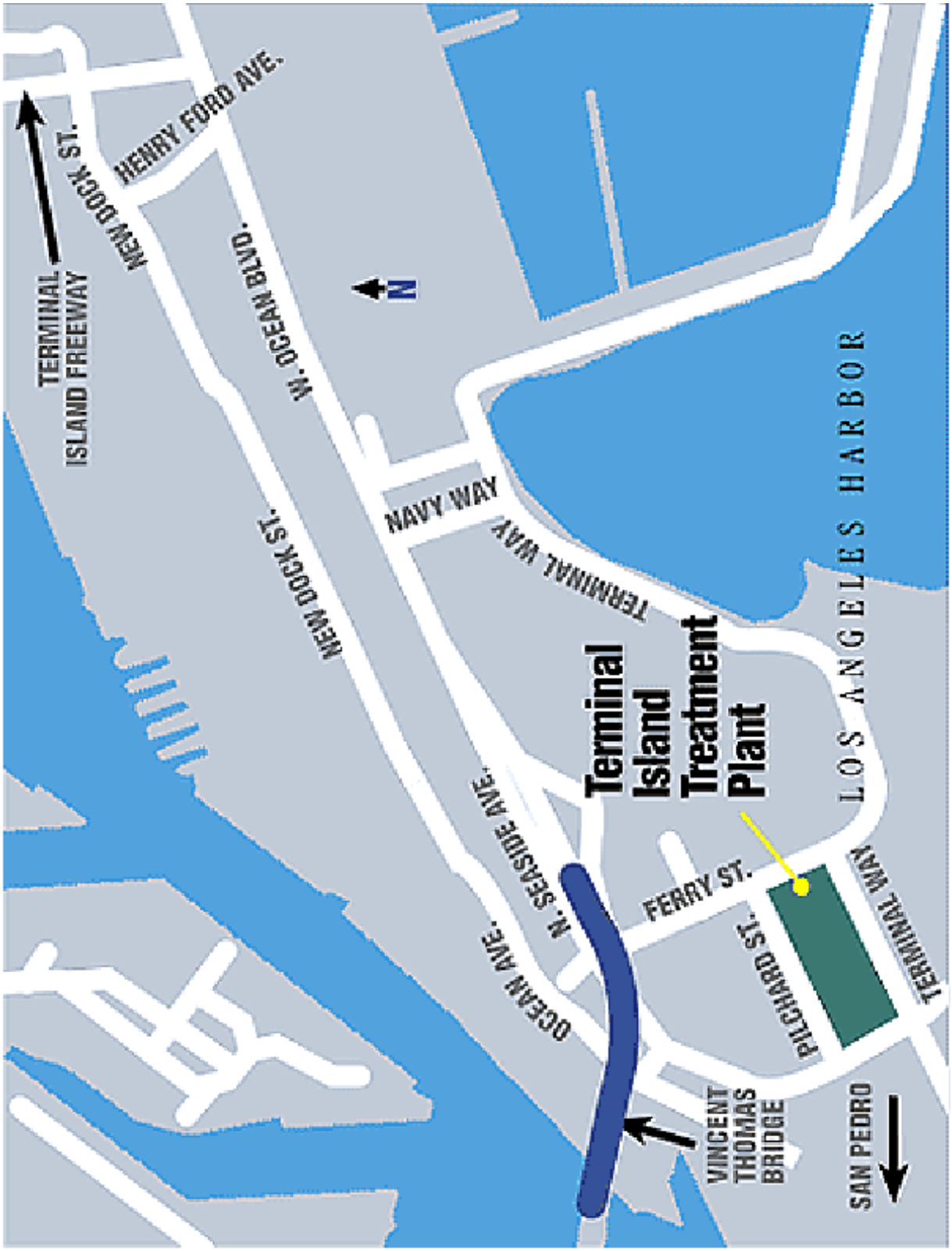
$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

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

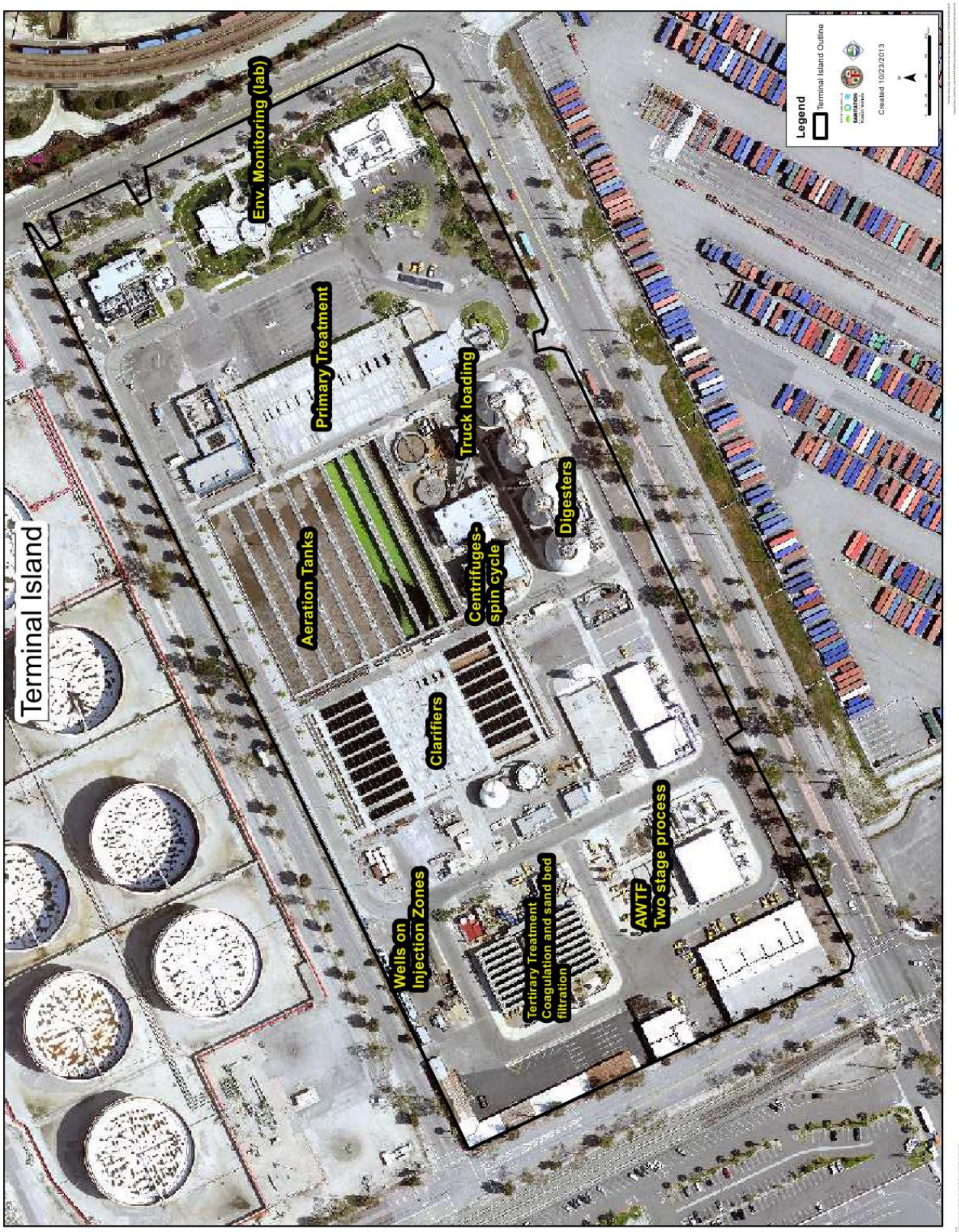
Toxicity Identification Evaluation (TIE) is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

Toxicity Reduction Evaluation (TRE)
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 Facility operations and maintenance practices, and best management practices. A TIE may be required as part of the TRE, if appropriate.

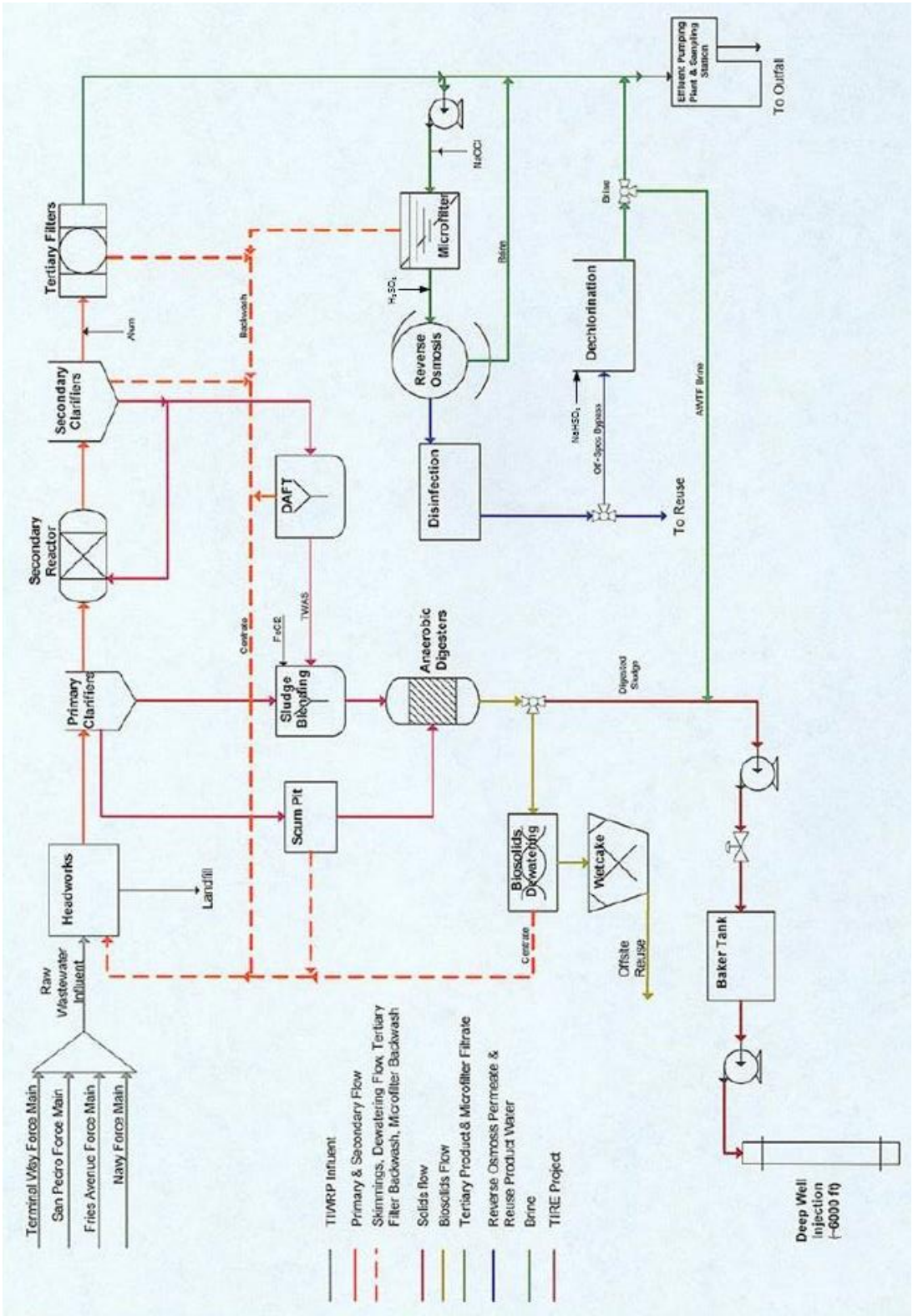
ATTACHMENT B1 – Map of TIWRP & Surrounding Area



ATTACHMENT B2 – Site Layout of Terminal Island Water Reclamation Plant



ATTACHMENT C – Process Flow Diagram of TIWRP



ATTACHMENT D – Standard Provisions

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Permittee must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA), its regulations, and the California Water Code (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 CFR § 122.41(a); California Water Code (CWC) sections 13261, 13263, 13264, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)

2. The Permittee shall comply with effluent standards or prohibitions established under Part 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. (Title 40 of the Code of Federal Regulations (40 CFR) § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Permittee 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 CFR § 122.41(c).)

C. Duty to Mitigate

The Permittee 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 CFR § 122.41(d))

D. Proper Operation and Maintenance

The Permittee 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 Permittee 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 Permittee only when necessary to achieve compliance with the conditions of this Order. (40 CFR § 122.41(e))

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR § 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 CFR § 122.5(c))

F. Inspection and Entry

The Permittee shall allow the Regional Water Board, State Water Board, 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 (33 U.S.C. section 1318(a)(4)(B); 40 CFR § 122.41(i); CWC sections 13267 and 13383):

1. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C. section 1318(a)(4)(B)(i); 40 CFR § 122.41(i)(1); CWC sections 13267 and 13383);
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. section 1318(a)(4)(B)(ii); 40 CFR § 122.41(i)(2); CWC sections 13267 and 13383);
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C. section 1318(a)(4)(B)(ii); 40 CFR § 122.41(i)(3); CWC sections 13267 and 13383); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the CWC, any substances or parameters at any location. (33 U.S.C. section 1318(a)(4)(B); 40 CFR § 122.41(i)(4); CWC sections 13267 and 13383)

G. Bypass

1. Definitions
   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR § 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 CFR § 122.41(m)(1)(ii))
2. *Bypass not exceeding limitations*. The Permittee 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 CFR § 122.41(m)(2))
3. *Prohibition of bypass*. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Permittee for bypass, unless (40 CFR § 122.41(m)(4)(i)):
   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR § 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 CFR § 122.41(m)(4)(i)(B)); and
   c. The Permittee submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 CFR § 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 CFR § 122.41(m)(4)(ii))

5. Notice

   a. *Anticipated bypass*. If the Permittee 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 CFR § 122.41(m)(3)(i))

   b. *Unanticipated bypass*. The Permittee shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 CFR § 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 Permittee. 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 CFR § 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 CFR § 122.41(n)(2).)

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

   a. An upset occurred and that the Permittee can identify the cause(s) of the upset (40 CFR § 122.41(n)(3)(i));

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

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

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

3. **Burden of proof.** In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof. (40 CFR § 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 Permittee for modification, revocation and reissuance, or termination, or a

notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 CFR § 122.41(f))

B. Duty to Reapply

If the Permittee wishes to continue an activity regulated by this Order after the expiration date of this Order, the Permittee must apply for and obtain a new permit. (40 CFR § 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 the Order to change the name of the Permittee and incorporate such other requirements as may be necessary under the CWA and the CWC. (40 CFR §s 122.41(l)(3) and 122.61)

III. STANDARD PROVISIONS – MONITORING

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

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

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), the Permittee 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 CFR § 122.41(j)(2))

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 CFR § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 CFR § 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 CFR § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 CFR § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 CFR § 122.41(j)(3)(v)); and
6. The results of such analyses. (40 CFR § 122.41(j)(3)(vi).)

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

1. The name and address of any permit applicant or Permittee (40 CFR § 122.7(b)(1)); and

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

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Permittee 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 Permittee shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 CFR § 122.41(h); Wat. Code, section 13267 and 13383)

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 CFR § 122.41(k))

2. *Signatory requirements for a municipality, State, Federal, or other public agency.* All applications submitted to the Regional Water Board shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 CFR § 122.22(a)(3)).

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 CFR § 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 CFR § 122.22(b)(2)); and

   c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 CFR § 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 CFR § 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 CFR § 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 CFR § 122.41(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 CFR § 122.41(l)(4)(i))
3. If the Permittee monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR § 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such 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 CFR § 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 CFR § 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 CFR § 122.41(l)(5))

E. Twenty-Four Hour Reporting

1. The Permittee shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Permittee 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 CFR § 122.41(l)(6)(i))
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR § 122.41(l)(6)(ii)):
    a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR § 122.41(l)(6)(ii)(A))
    b. Any upset that exceeds any effluent limitation in this Order. (40 CFR § 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 CFR § 122.41(l)(6)(iii).)

F. Planned Changes

The Permittee 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 CFR § 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 CFR § 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 § 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1). (40 CFR § 122.41(l)(1)(ii))
3. The alteration or addition results in a significant change in the Permittee'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 CFR § 122.41(l)(1)(iii))

G. Anticipated Noncompliance

The Permittee 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 this Order's requirements. (40 CFR § 122.41(l)(2))

H. Other Noncompliance

The Permittee 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 CFR § 122.41(l)(7))

I. Other Information

When the Permittee 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 Permittee shall promptly submit such facts or information. (40 CFR § 122.41(l)(8))

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the CWC, including, but not limited to, sections 13268, 13385, 13386, and 13387.

B. The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the CWA, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the CWA, is subject to a civil penalty not to exceed $25,000 per day for each violation. The CWA provides that any person who *negligently*

violates sections 301, 302, 306, 307, 308, 318, or 405 of the CWA, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the CWA, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the CWA, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two years, or both. Any person who *knowingly* violates such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both. Any person who *knowingly* violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the CWA, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the CWA, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions (40 CFR § 122.41(a)(2); CWC section 13385 and 13387).

C. Any person may be assessed an administrative penalty by the Administrator of USEPA, the Regional Water Board, or State Water Board for violating section 301, 302, 306, 307, 308, 318 or 405 of this CWA, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the CWA. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000. (40 CFR § 122.41(a)(3))

D. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or both. (40 CFR § 122.41(j)(5)).

E. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both. (40 CFR § 122.41(k)(2)).

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 CFR § 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 CFR § 122.42(b)(1)); and
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 CFR § 122.42(b)(2))
3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 CFR § 122.42(b)(3))

ATTACHMENT E – Monitoring and Reporting Program

Contents

Tables

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP), CI-2171

Section 308(a) of the federal Clean Water Act and sections 122.41(h), (j), (l), 122,44(i), and 122.48 of Title 40 of the Code of Federal Regulations (40 CFR) require that all NPDES permits specify monitoring and reporting requirements. California Water Code (CWC) sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This MRP establishes monitoring, reporting, and recordkeeping requirements that implement federal and California laws and/or regulations.

I. GENERAL MONITORING PROVISIONS

A. All samples shall be representative of the waste discharge under conditions of peak load. Quarterly effluent analyses shall be performed during the first quarter (January, February, and March), the second quarter (April, May, and June), the third quarter (July, August, and September), and the fourth quarter (October, November, and December). Semiannual analyses shall be performed during the first quarter (January, February, and March) and third quarter (July, August, and September). Annual analyses shall be performed during the third quarter (July, August, and September). Should there be instances when monitoring could not be performed during these specified months, the Permittee must notify the Regional Water Board, state the reason why monitoring could not be conducted, and obtain approval from the Executive Officer for an alternate schedule. Results of quarterly, semiannual, and annual analyses shall be reported as due date specified in Table E-13 of the MRP.

B. Pollutants shall be analyzed using the analytical methods described in 40 CFR § 136.3, 136.4, and 136.5; or where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board. Laboratories analyzing effluent samples and receiving water samples shall be certified by the State Water Resources Control Board, Division of Drinking Water (DDW) Environmental Laboratory Accreditation Program (ELAP) or approved by the Executive Officer and must include quality assurance/quality control (QA/QC) data in their reports. A copy of the laboratory certification shall be provided in the Annual Report due to the Regional Water Board each time a new certification and/or renewal of the certification is obtained from ELAP.

C. Water/wastewater samples must be analyzed within allowable holding time limits as specified in 40 CFR § 136.3. All QA/QC analyses must be run on the same dates that samples are actually analyzed. The Permittee shall retain the QA/QC documentation in its files and make available for inspection and/or submit them when requested by the Regional Water Board. Proper chain of custody procedures must be followed and a copy of that documentation shall be submitted with the quarterly report.

D. The Permittee shall calibrate and perform maintenance procedures on all monitoring instruments and to ensure accuracy of measurements, or shall ensure that both equipment activities will be conducted.

E. For any analyses performed for which no procedure is specified in the United States Environmental Protection Agency (USEPA) guidelines, or in the MRP, the constituent or parameter analyzed and the method or procedure used must be specified in the monitoring report.

F. Each monitoring report must affirm in writing that “all analyses were conducted at a laboratory certified for such analyses by the State Water Resources Control Board, Division of Drinking

Water, or approved by the Executive Officer and in accordance with current USEPA guideline procedures or as specified in this Monitoring and Reporting Program."

G. The monitoring report shall specify the USEPA analytical method used, the Method Detection Limit (MDL), and the Reporting Level (RL) [the applicable minimum level (ML) or reported Minimum Level (RML)] for each pollutant. The MLs are those published by the State Water Resources Control Board (State Water Board) in the *Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, (State Implementation Policy or SIP),* February 9, 2005, Appendix 4. The ML represents the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interference. When all specific analytical steps are followed and after appropriate application of method specific factors, the ML also represents the lowest standard in the calibration curve for that specific analytical technique. When there is deviation from the method analytical procedures, such as dilution or concentration of samples, other factors may be applied to the ML depending on the sample preparation. The resulting value is the reported ML.

H. The Permittee shall select the analytical method that provides a ML lower than the permit limit established for a given parameter, unless the permittee can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR part 136, and obtains approval for a higher ML from the Executive Officer, as provided for in section J, below. If the effluent limitation is lower than all the MLs in Appendix 4, SIP, the Permittee must select the method with the lowest ML for compliance purposes. The Permittee shall include in the Annual Summary Report a list of the analytical methods employed for each test.

I. The Permittee shall instruct its laboratories to establish calibration standards so that the ML (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Permittee to use analytical data derived from extrapolation beyond the lowest point of the calibration curve. In accordance with section J, below, the Permittee's laboratory may employ a calibration standard lower than the ML in Appendix 4 of the SIP.

J. In accordance with section 2.4.3 of the SIP, the Regional Water Board Executive Officer, in consultation with the State Water Board's Quality Assurance Program Manager, may establish an ML that is not contained in Appendix 4 of the SIP to be included in the Permittee's permit in any of the following situations:

1. When the pollutant under consideration is not included in Appendix 4, SIP;

2. When the Permittee and the Regional Water Board agree to include in the permit a test method that is more sensitive than those specified in 40 CFR part 136;

3. When the Permittee agrees to use an ML that is lower than those listed in Appendix 4;

4. When the Permittee demonstrates that the calibration standard matrix is sufficiently different from that used to establish the ML in Appendix 4 and proposes an appropriate ML for the matrix; or,

5. When the Permittee uses a method, which quantification practices are not consistent with the definition of the ML. Examples of such methods are USEPA-approved method 1613 for dioxins, and furans, method 1624 for volatile organic substances, and method 1625 for semi-volatile organic substances. In such cases, the Permittee, the Regional Water

Board, and the State Water Board shall agree on a lowest quantifiable limit and that limit will substitute for the ML for reporting and compliance determination purposes.

If there is any conflict between foregoing provisions and the SIP, the provisions stated in the SIP (section 2.4) shall prevail.

K. If the Permittee samples and performs analyses (other than for process/operational control, startup, research, or equipment testing) on any influent, effluent, or receiving water constituent more frequently than required by this MRP using approved analytical methods, the results of those analyses shall be included in the report. These results shall be reflected in the calculation of the average used in demonstrating compliance with limitations set forth in this Order.

L. The Permittee shall develop and maintain a record of all spills or bypasses of raw or partially treated sewage from its collection system or treatment plant according to the requirements in the WDR section of this Order. This record shall be made available to the Regional Water Board upon request and a spill summary shall be included in the annual summary report.

M. For all bacteriological analyses, sample dilutions should be performed so the expected range of values is bracketed (for example, with multiple tube fermentation method or membrane filtration method, 2 to 16,000 per 100 mL for total and fecal coliform, at a minimum, and 1 to 1000 per 100 mL for *Enterococcus*). The detection methods used for each analysis shall be reported with the results of the analyses.

1. Detection methods used for coliforms (total and fecal) shall be those presented in Table 1A of 40 CFR part 136, unless alternate methods have been approved in advance by the USEPA pursuant to 40 CFR part 136.

2. Detection methods used for *Enterococcus* shall be those presented in Table 1A of 40 CFR part 136 or in the USEPA 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 Water Board to be appropriate.

II. REGIONAL MONITORING PROVISIONS

A. Pursuant to the Code of Federal Regulations [40 CFR, Section 122.41(j) and Section 122.48(b)], the monitoring program for a discharger receiving an NPDES permit must be designed to determine compliance with NPDES permit terms and conditions, and demonstrate that State water quality standards are met.

B. NPDES compliance monitoring focuses on the effects of a specific point source discharge. Generally, it is not designed to assess impacts from other sources of pollution (e.g., nonpoint source runoff, aerial fallout) or to evaluate the current status of important ecological resources in the water body. The scale of existing compliance monitoring programs does not match the spatial and, to some extent, temporal boundaries of the important physical and biological processes in the ocean. In addition, the spatial coverage provided by compliance monitoring programs is less than ten percent of the near-shore ocean environment. Better technical information is needed about status and trends in ocean waters to guide management and regulatory decisions, to verify the effectiveness of existing programs, and to shape policy on marine environmental protection.

C. The Regional Water Board and USEPA, working with other groups, have developed a comprehensive basis for effluent and receiving water monitoring appropriate to large Publicly Owned Treatment Works (POTWs) discharging to waters of the Southern California Bight. This effort has culminated in the publication by the Southern California Coastal Water Research Project (SCCWRP) of the Model Monitoring Program Guidance Document (Schiff, K.C., J.S. Brown and S.B. Weisberg. 2001. *Model Monitoring Program for Large Ocean Dischargers in Southern California*. SCCWRP Tech. Rep #357. Southern California Coastal Water Research Project, Westminster, CA. 101 pp.). This guidance provides the principles, framework and recommended design for effluent and receiving water monitoring elements which have guided development of the monitoring program described below.

D. The conceptual framework for the Model Monitoring Program has three components that comprise a range of spatial and temporal scales: (A) core monitoring; (B) regional monitoring; and (C) special studies.

1. Core monitoring is local in nature and focused on monitoring trends in quality and effects of the point source discharge. This includes effluent monitoring as well as some aspects of receiving water monitoring. In the monitoring program described below these core components are typically referred to as local monitoring.

2. Regional monitoring is focused on questions that are best answered by a region-wide approach that incorporates coordinated survey design and sampling techniques. The major objective of regional monitoring is to collect information required to assess how safe it is to swim in the ocean, how safe it is to eat seafood from the ocean, and whether the marine ecosystem is being protected. Key components of regional monitoring include elements to address pollutant mass emission estimations, public health concerns, monitoring of trends in natural resources, assessment of regional impacts from all contaminant sources, and protection of beneficial uses. The final design of regional monitoring programs is developed by means of steering committees and a technical committee comprised of participating agencies and organizations, and is not specified in this permit. Instead, for each regional component, the degree and nature of participation of the Permittee is specified. For this permit, these levels of effort are based upon past participation of the City of Los Angeles in regional monitoring programs.

   The Permittee shall participate in regional monitoring activities coordinated by the SCCWRP or any other appropriate agency approved by the Regional Water Board and USEPA. The procedures and timelines for the Regional Water Board and USEPA approval shall be the same as detailed for special studies, below.

3. Special studies under the Model Monitoring Program are focused on refined questions regarding specific effects or development of monitoring techniques and are anticipated to be of short duration and/or small scale, although multiyear studies also may be needed. Questions regarding effluent or receiving water quality, discharge impacts, ocean processes in the area of the discharge, or development of techniques for monitoring, and arising out of the results of core or regional monitoring, may be pursued through special studies. These studies are by nature often ad hoc and cannot be typically anticipated in advance of the five-year permit cycle.

   The Permittee, Regional Water Board and USEPA shall consult annually to determine the need for special studies. Each year, the Permittee shall submit proposals for any proposed special studies to the Regional Water Board and USEPA by December 30, for the following year's monitoring effort (July through June). The following year, detailed

scopes of work for proposals, including reporting schedules, shall be presented by the Permittee at a spring Regional Water Board meeting, to obtain approval from the Regional Water Board and USEPA, and to inform the public. Upon approval of the Regional Water Board and USEPA, the Permittee shall implement its special study or studies.

E. The Permittee's participation in regional monitoring programs is required as a condition of this permit. The Permittee shall complete collection and analysis of samples in accordance with the schedule established by the Steering Committee directing the Bight-wide regional monitoring surveys. The level of participation shall be similar to that provided by the Permittee in previous regional surveys conducted in 1994, 1998, 2003, 2008, and 2013. The regional programs which must be conducted under this permit include:

1. Future Southern California Bight regional surveys, including benthic infauna, sediment chemistry, fish communities, fish predator risk.

2. Santa Monica Bay Restoration Project's Seafood Safety Survey – the level of participation shall be equivalent to that outlined by the Santa Monica Bay Restoration Commission's Local Seafood Safety monitoring design.

F. Regular regional monitoring for the Southern California Bight has been established, occurring at four- to five-year intervals, and coordinated by SCCWRP with dischargers, agencies, and numerous other entities. While participation in regional programs is required under this permit, revisions to the Terminal Island monitoring program at the direction of the Regional Water Board and USEPA may be necessary to accomplish the goals of regional monitoring or to allow the performance of special studies to investigate regional or site-specific water issues of concern. These revisions may include a reduction or increase in the number of parameters to be monitored, the frequency of monitoring, or the number and size of samples to be collected. Such changes may be authorized by the Executive Officer and USEPA upon written notification to the Permittee.

III. MONITORING LOCATIONS

The Permittee 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
Influent Monitoring Station		
--	INF-001	Sampling stations shall be established at each point of inflow to the sewage treatment plant and shall be located upstream of any in-plant return flows and where representative samples of the influent can be obtained.
Effluent Monitoring Station		
001	EFF-001	The effluent sampling station shall be located downstream of any in-plant return flows and after the final disinfection process, where representative samples of the effluent can be obtained. The current effluent sampling station meets the above requirements and captures tertiary treated effluent as well as brine waste discharged from the Advanced Water Purification Facility (AWPF).
Receiving Water Monitoring Stations		

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
Water Quality Monitoring Stations		
	HW20	33.727361 N, 118.232917 W
	HW21	33.726361 N, 118.236667 W
	HW23	33.724167 N, 118.244028 W
	HW24	33.723083 N, 118.247778 W
	HW33	33.722100 N, 118.243400 W
	HW40	33.724861 N, 118.231056 W
	HW41	33.723778 N, 118.234694 W
	HW43	33.721583 N, 118.242222 W
	HW44	33.720778 N, 118.245806 W
	HW47	33.715778 N, 118.265500 W
	HW49	33.711111 N, 118.278611 W
	HW50	33.722083 N, 118.229167 W
	HW51	33.721056 N, 118.232722 W
	HW53	33.718694 N, 118.240083 W
	HW54	33.717583 N, 118.243889 W
	HW56	33.712222 N, 118.259083 W
	HW62	33.717306 N, 118.234500 W
	HW63	33.716111 N, 118.238111 W
	HW64	33.714861 N, 118.241861 W
	HW65	33.709278 N, 118.253250 W
Microbiological Monitoring Stations		
	HW07	33.722500 N, 118.270000 W
	HW16	33.722222 N, 118.261667 W
	HW20	33.727361 N, 118.232917 W
	HW23	33.724167 N, 118.244028 W
	HW24	33.723083 N, 118.247778 W
	HW29	33.715833 N, 118.277220 W
	HW33	33.722100 N, 118.243400 W
	HW44	33.720778 N, 118.245806 W
	HW49	33.711111 N, 118.278611 W
	HW50	33.722083 N, 118.229167 W
	HW53	33.718694 N, 118.240083 W
	HW54	33.717583 N, 118.243889 W
	HW56	33.712222 N, 118.259083 W
	HW62	33.717306 N, 118.234500 W
	HW64	33.714861 N, 118.241861 W
Acute Toxicity Sampling		
	HW23	33.724167 N, 118.244028 W
	HW33	33.722722 N, 118.240611 W
Chronic Toxicity Sampling Stations		
	HW20	33.727361 N, 118.232917 W
	HW62	33.717306 N, 118.234500 W
Macrofaunal and Sediment Monitoring Stations		
	HM2	33.723056 N, 118.244861 W

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
	HM3	33.722722 N, 118.242611 W
	HM4	33.725917 N, 118.232139 W
	HM6	33.721333 N, 118.243889 W
	HM7	33.722083 N, 118.229167 W
	HM8	33.718694 N, 118.240083 W
	HM9	33.716056 N, 118.238194 W
	HM10	33.713556 N, 118.245278 W
	HM11	33.712278 N, 118.259028 W
	HM12	33.712778 N, 118.270917 W
	HM13	33.710833 N, 118.234667 W
Trawl Sampling Stations		
	HT5A	33.707420 N, 118.230200 W
	HT7	33.723889 N, 118.244778 W
	HT9	33.725972 N, 118.235000 W
	HT10	33.714306 N, 118.243417 W
	HT12	33.720778 N, 118.245806 W
	HT13	33.717306 N, 118.234500 W
Harbor Toxics TMDL Sampling Locations		
	Station ID #8	33.71466100 N, 118.2423894 W
	Station ID #9	33.71204959 N, 118.2634051 W

Figure E-1 Locations of Water Quality Monitoring Stations

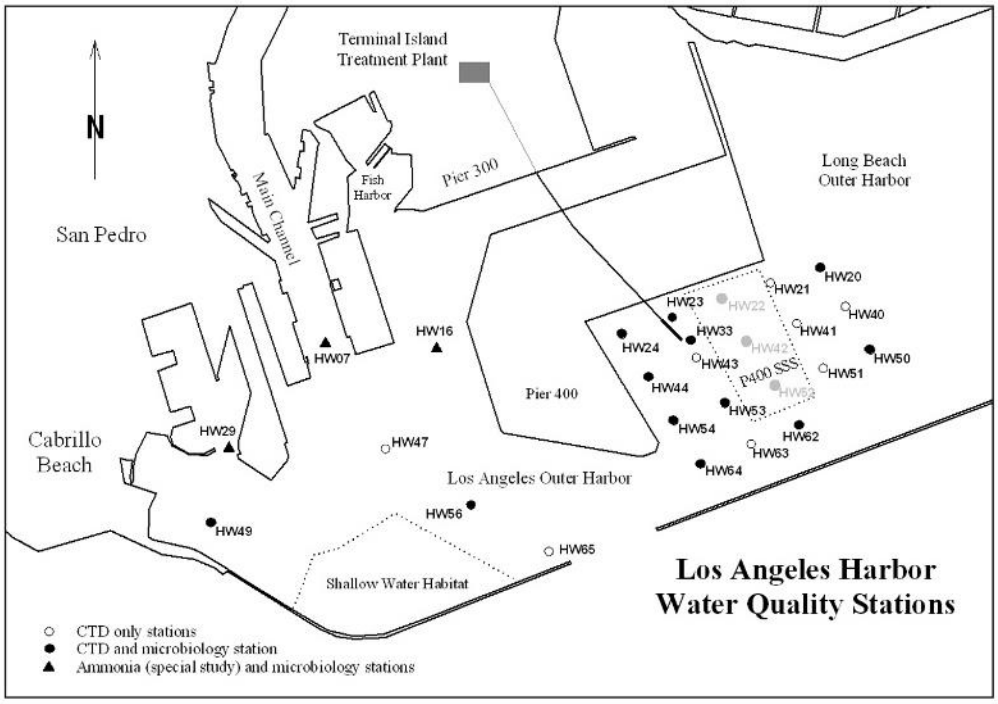


Figure E-2 Locations of Microbiological Monitoring Stations

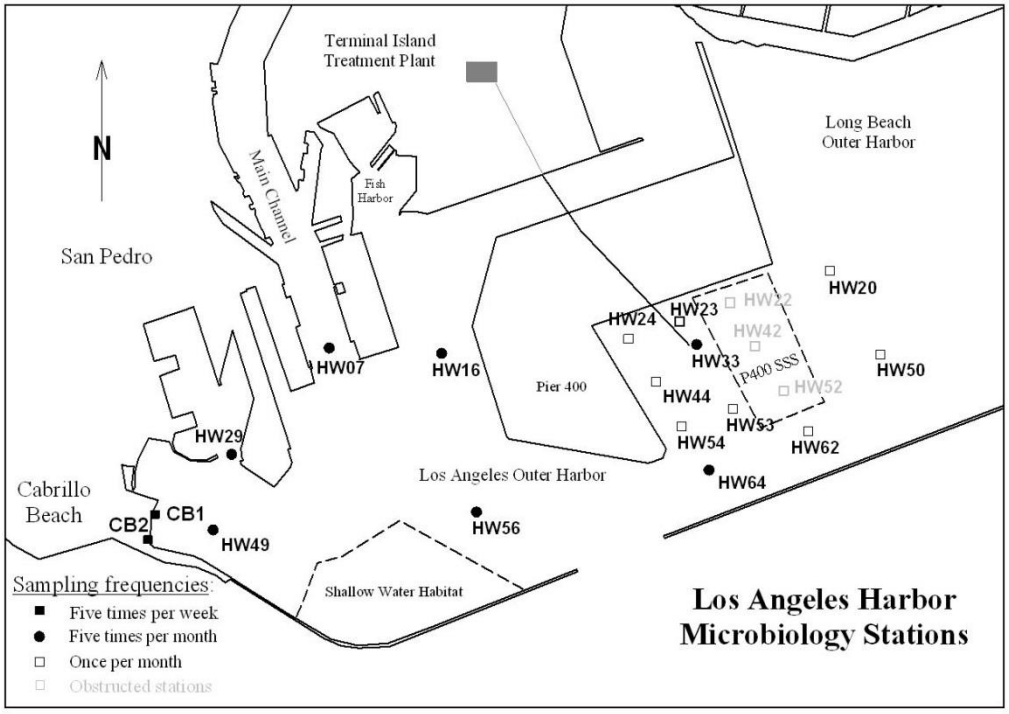


Figure E-3 Locations of Acute and Chronic Toxicity Monitoring Stations

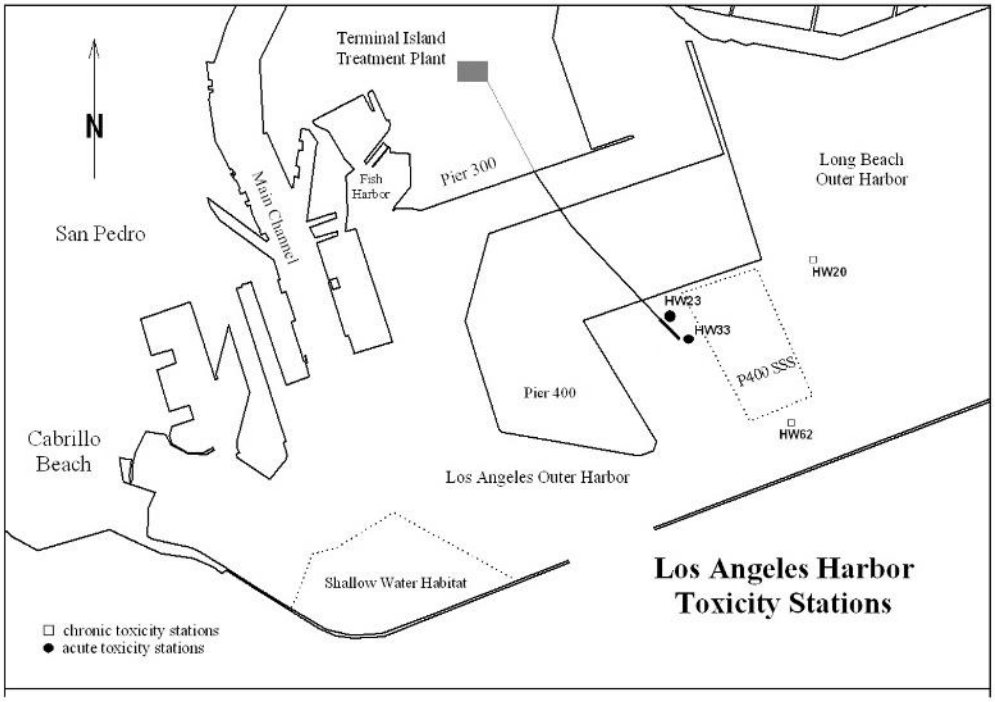


Figure E-4 Locations of Macrofaunal and Sediment Monitoring Stations

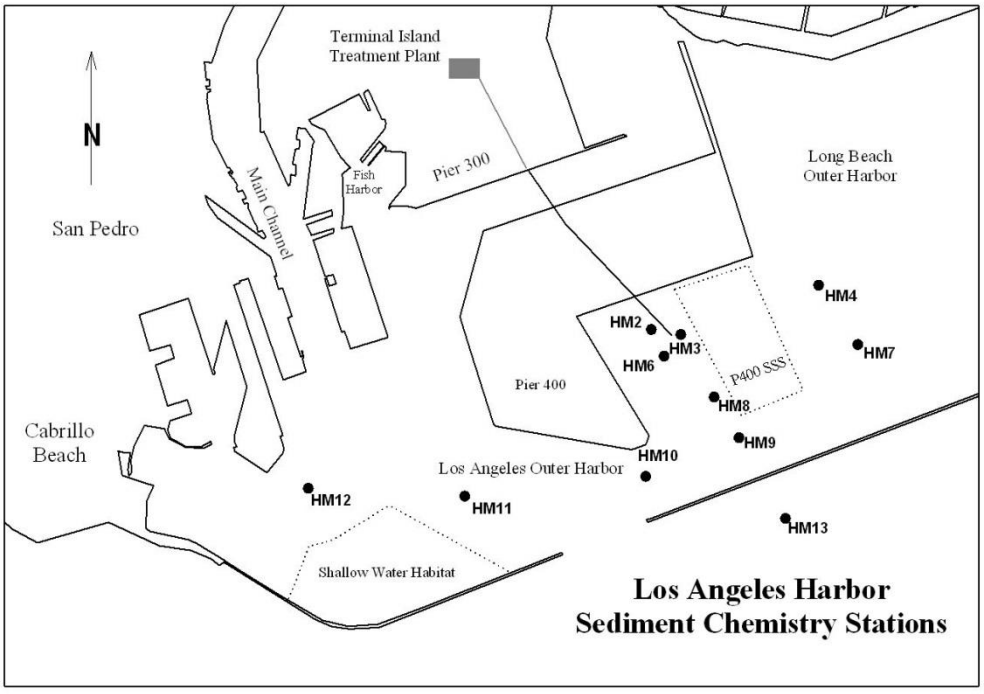


Figure E-5 Locations of Trawling Stations

IV. INFLUENT MONITORING REQUIREMENTS

Influent monitoring is required to determine compliance with NPDES permit conditions, assess treatment plant performance and assess effectiveness of the Pretreatment Program.

A. Monitoring Location INF-001

The Permittee shall monitor influent to the Facility at INF-001 as follows:

Table E-2. Influent Monitoring at INF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	recorder	continuous	[1]
pH	pH units	grab	weekly	[2]
Total Suspended Solids (TSS)	mg/L	24-hour composite	weekly	[2]
Biochemical Oxygen	mg/L	24-hour composite	weekly	[2]

[1] Total daily flow and instantaneous peak daily flow (24-hr basis). Actual monitored flow shall be reported (not the maximum flow, i.e., design capacity).

[2] Pollutants shall be analyzed using the analytical methods described in 40 CFR part 136; where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or State Water Board. For any pollutant whose effluent limitation is lower than all the MLs specified in Attachment 4 of the SIP, the analytical method with the lowest ML must be selected.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Demand (BOD_5 20°C)				
Copper	µg/L	24-hour composite	quarterly	[2]
Lead	µg/L	24-hour composite	quarterly	[2]
Mercury	µg/L	24-hour composite	quarterly	[2]
Nickel	µg/L	24-hour composite	quarterly	[2]
Silver	µg/L	24-hour composite	quarterly	[2]
Cyanide	µg/L	grab	quarterly	[2]
Bis(2-ethyhexyl)phthalate	µg/L	24-hour composite	quarterly	[2]
Pesticides[3]	µg/L	24-hour composite	semiannually	[2]
Remaining EPA priority pollutants[4] excluding asbestos	µg/L	24-hour composite; grab for VOCs and Chromium VI	semiannually	[2]

V. EFFLUENT MONITORING REQUIREMENTS

Effluent monitoring is required to determine compliance with National Pollutant Discharge Elimination System (NPDES) permit conditions and water quality standards; assess and improve plant performance, and identify operational problems; provide information on wastewater characteristics and flows for use in interpreting water quality and biological data; and to conduct reasonable potential analyses for toxic pollutants.

A. Monitoring Location EFF-001

The Permittee shall monitor the combined flow of tertiary-treated effluent as well as brine waste discharged from the AWPF at EFF-001 as follows. If more than one analytical test method is listed for a given parameter, the Permittee must select from the listed methods and corresponding Minimum Level:

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Total waste flow	mgd	recorder	continuous[5]	[6]

[3] Pesticides are, for purposes of this order, those six constituents referred to in 40 CFR, Part 125.58(m) (demeton, guthion, malathion, Methoxychlor, mirex, and parathion).

[4] Priority pollutants are those constituents referred to in 40 CFR 401.15; a list of these pollutants is provided as Appendix A to 40 CFR 423.

[5] Where continuous monitoring of a constituent is required, the following shall be reported:
Total waste flow – Total daily and peak daily flow (24-hour basis);
Turbidity – maximum daily value, total amount of time each day the turbidity exceeded 5 NTU, flow-proportioned average daily value. A grab sample can be used to determine compliance with the 10 NTU limit. A flow- weighted 24-hour composite sample may be used in place of the recorder to determine the flow-proportioned average daily value.
Total residual chlorine – maximum value within a calendar day

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Turbidity	NTU	recorder	continuous[5]	[6]
Total residual chlorine	mg/L	recorder	continuous[5]	[6]
Temperature	°F	grab	weekly	[6]
pH	pH units	grab	weekly	[6]
Settleable solids	mL/L	grab	weekly	[6]
Total Suspended Solids (TSS)	mg/L	24-hour composite	weekly	[6]
BOD5 20°C	mg/L	24-hour composite	weekly	[6]
Oil and grease	mg/L	grab	weekly	[6]
Dissolved oxygen	mg/L	grab	weekly	[6]
Ammonia Nitrogen	mg/L	24-hour composite	monthly	[6]
Nitrate + Nitrite (as nitrogen)	mg/L	24-hour composite	monthly	[6]
Organic Nitrogen	mg/L	24-hour composite	monthly	[6]
Total Nitrogen	mg/L	24-hour composite	monthly	[6]
Surfactants (MBAS)[7]	mg/L	24-hour composite	monthly	[6]
Surfactants (CTAS)[7]	mg/L	24-hour composite	monthly	[6]
Chronic Toxicity	Pass or Fail, % effect (TST)	24-hour composite	monthly[8]	[6]
Beryllium	µg/L	24-hour composite	semi-annually	[6]
Copper	µg/L and kg	24-hour composite	monthly	[6]
Lead[9]	µg/L and kg	24-hour composite	monthly	[6]
Zinc[9]	µg/L and kg	24-hour composite	monthly	[6]
Total PAHs[9]	µg/L and kg	24-hour composite	monthly	[6]
Total DDT[9]	µg/L and g	24-hour composite	monthly	[6]
Total PCBs[9]	µg/L and g	24-hour composite	monthly	[6]
PCBs as aroclors[10]	µg/L	24-hour composite	quarterly	[6]

[6] Pollutants shall be analyzed using the analytical methods described in 40 CFR 136; where no methods are specified for a given pollutant, by methods approved by this Regional Board or State Water Resources Control Board. For any pollutant whose effluent limitation is lower than all minimum levels (MLs) specified in Attachment 4 of the SIP, the analytical method with the lowest ML must be selected.

[7] MBAS is Methylene Blue Active Substances and CTAS is Cobalt Thiocyanate Active Substances. These substances disturb the surface tension, which affects insects and can affect gills in aquatic life.

[8] The Permittee shall conduct whole effluent toxicity monitoring as outlined in section VI. Please refer to section VI.A.7. of this MRP for the accelerated monitoring schedule. The median monthly summary result shall be reported as “Pass” or “Fail”. The maximum daily single result shall be reported as “Pass” or “Fail” with a “Percent Effect”. When there is discharge on more than one day in a calendar month period, up to three independent toxicity tests may be conducted when one toxicity test results in “Fail”.

[9] Monthly monitoring for this constituent is necessary to comply with the Harbor Toxics TMDL WLA. The mass-based results shall be reported as both a monthly average and a running annual average.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
PCBs as congeners[11]	µg/L	24-hour composite	annually	[6]
Cyanide	µg/L	grab	monthly	[6]
Chromium VI	µg/L	grab	semi-annually	[6]
Remaining EPA Priority Pollutant Metals	µg/L	grab/ 24-hour composite	quarterly	[6]
Bromoform	µg/L	grab	quarterly	[6]
2,3,7,8-TCDD (dioxin)	pg/L	24-hour composite	quarterly	[6]
Chlorodibromomethane	µg/L	grab	quarterly	[6]
Chloroform	µg/L	grab	quarterly	[6]
Dichlorobromomethane	µg/L	grab	quarterly	[6]
Ethylbenzene	µg/L	grab	quarterly	[6]
Methylene Chloride	µg/L	grab	quarterly	[6]
Tetrachloroethylene	µg/L	grab	quarterly	[6]
Toluene	µg/L	grab	quarterly	[6]
Trichloroethylene	µg/L	grab	quarterly	[6]
2,4,6-Trichlorophenol	µg/L	24-hour composite	quarterly	[6]
Bis(2-ethylhexyl)phthalate	µg/L	24-hour composite	quarterly	[6]
Pyrene	µg/L	24-hour composite	quarterly	[6]
Pesticides[12]	µg/L	24-hour composite	semiannually	[6]
Remaining EPA priority pollutants[13] excluding asbestos	µg/L	24-hour composite; grab for VOCs	semiannually	[6]
Tributylin	µg/L	24-hour composite	semiannually	[6]
Radioactivity (Including gross	pCi/L	24-hour composite	semiannually	[14]

[10] PCBs as aroclors is the sum of PCB 1016, PCB 1221, PCB 1232, PCB 1242, PCB 1248, PCB 1254, and PCB 1260 when monitoring using USEPA method 608.

[11] PCBs as congeners mean the sum of 41 congeners when monitoring using USEPA proposed method 1668c. PCB-18, 28, 37, 44, 49, 52, 66, 70, 74, 77, 81, 87, 99, 101, 105,110, 114, 118, 119, 123, 126, 128, 138, 149, 151, 153, 156, 157, 158, 167, 168, 169, 170, 177, 180, 183, 187, 189, 194, 201, and 206 shall be individually quantified. PCBs as congeners shall be analyzed using method EPA 1668c for three years and may be discontinued, only if none of the PCB congeners are detected using method EPA 1668c.

USEPA recommends that until USEPA proposed method 1668c for PCBs is incorporated into 40 CFR part 136, Permittees should use for discharge monitoring reports/State monitoring reports: (1) USEPA method 608 for monitoring data, reported as aroclor results, that will be used for assessing compliance with WQBELs (if applicable) and (2) USEPA proposed method 1668c for monitoring data, reported as 41 congener results, that will be used for informational purposes.

[12] Pesticides are, for purposes of this order, those six constituents referred to in 40 CFR, Part 125.58(m) (demeton, guthion, malathion, Methoxychlor, mirex, and parathion).

[13] Priority pollutants are those constituents referred to in 40 CFR part 401.15; a list of these pollutants is provided as Appendix A to 40 CFR part 423.

[14] Analyze these radiochemicals by the following USEPA methods: method 900.0 for gross alpha and gross beta, method 903.0 or 903.1 for radium-226, method 904.0 for radium-228, method 906.0 for tritium, method

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
alpha, gross beta, combined radium-226 and radium-228, tritium, strontium-90 and uranium)				

B. Tertiary Filter Treatment Bypasses

1. During any day that the filters are bypassed, the Permittee shall monitor the effluent for BOD, suspended solids, settleable solids, and oil and grease, on a daily basis, until it is demonstrated that the filter "bypass" has not caused an adverse impact on the receiving water.

2. The Permittee shall maintain a chronological log of tertiary filter treatment process bypasses, including the following:

   a. Date and time of bypass start and end;

   b. Total duration time; and,

   c. Estimated total volume bypassed.

3. The Permittee shall notify Regional Water Board staff by telephone within 24 hours of the filter bypass event.

4. The Permittee shall submit a written report to the Regional Water Board, according to the corresponding monthly self-monitoring report schedule. The report shall include, at a minimum, the information from the chronological log. Results from the daily effluent monitoring, required by Section V.A. above, shall be submitted to the Regional Board in the Permittee's self-monitoring report as soon as the results become available.

C. Total Residual Chlorine Additional Monitoring

Continuous monitoring of total residual chlorine at the current location shall serve as an internal trigger for the increased grab sampling at EFF-001 if either of the following occurs, except as noted in item 3:

1. Total residual chlorine concentration excursions of up to 0.3 mg/L lasting greater than 15 minutes; or

2. Total residual chlorine concentration peaks in excess of 0.3 mg/L lasting greater than 1 minute.

3. Additional grab samples need not be taken if it can be demonstrated that a stoichiometrically appropriate amount of dechlorination chemical has been added to

905.0 for strontium-90, and method 908.0 for uranium. Analysis for combined radium-226 & 228 shall be conducted only if gross alpha results for the same sample exceed 15 pCi/L or beta greater than 50 pCi/L. If radium-226 & 228 exceeds the stipulated criteria, analyze for tritium, strontium-90 and uranium.

effectively dechlorinate the effluent to 0.1 mg/L or less for peaks in excess of 0.3 mg/L lasting more than 1 minute, but not for more than five minutes.

VI. WHOLE EFFLUENT TOXICITY (WET) TESTING REQUIREMENTS

A. Chronic Toxicity

1. Discharge In-stream Waste Concentration (IWC) for Chronic Toxicity

The chronic toxicity IWC for this discharge is 1.6 percent effluent.

2. Sample Volume and Holding Time

The total sample volume shall be determined by the specific toxicity test method used. Sufficient sample volume shall be collected to perform the required toxicity test. Sufficient sample volume shall also be collected during accelerated monitoring for subsequent TIE studies, if necessary, at each sampling event. All toxicity tests shall be conducted as soon as possible following sample collection. No more than 36 hours shall elapse before the conclusion of sample collection and test initiation**.**

3. Chronic Marine Species and Test Methods

If effluent samples are collected from outfalls discharging to receiving waters with salinity >1 ppt, the Permittee shall conduct the following chronic toxicity tests on effluent samples, at the in-stream waste concentration for the discharge, in accordance with species and test methods in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995). Artificial sea salts or hypersaline brine shall be used to increase sample salinity if needed. In no case shall these species be substituted with another test species unless written authorization from the Executive Officer is received.

a. A static renewal toxicity test with the topsmelt, *Atherinops affinis* (Larval Survival and Growth Test Method 1006.01).

b. A static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus*, and the sand dollar, *Dendraster excentricus* (Fertilization Test Method 1008.0), or a static non-renewal toxicity test with the red abalone, *Haliotis rufescens* (Larval Shell Development Test Method).

c. A static non-renewal toxicity test with the giant kelp, *Macrocystis pyrifera* (Germination and Growth Test Method 1009.0).

4. Species Sensitivity Screening

Species sensitivity screening shall be conducted during this permit's first required sample collection. The Permittee shall collect a single effluent sample to initiate and concurrently conduct three toxicity tests using the fish, an invertebrate, and the alga species previously referenced. This sample shall also be analyzed for the parameters required on a monthly frequency for the discharge, during that given month. As allowed under the test method for the *Atherinops affinis*, a second and third sample may be collected for use as test solution renewal water as the seven-day toxicity test progresses. If the result of all three species is "Pass", then the species that exhibits the highest "Percent Effect" at the discharge IWC during species sensitivity screening shall be used for routine monitoring during the permit cycle. If only one species fails, then that species shall be used for routine monitoring during the permit cycle. Likewise, if two or more species result in "Fail", then the species that exhibits the highest "Percent Effect" at

the discharge IWC during the suite of species sensitivity screening shall be used for routine monitoring during the permit cycle, until such time as a rescreening is required.

Species sensitivity rescreening is required every 24 months if there has been discharge during dry weather conditions. If the discharge is intermittent and discharges only during wet weather, rescreening is not required. If rescreening is necessary, the Permittee shall rescreen with the marine vertebrate species, a marine invertebrate species, and the alga species previously referenced, and continue to monitor with the most sensitive species. If the first suite of rescreening tests demonstrates that the same species is the most sensitive then the rescreening does not need to include more than one suite of tests. If a different species is the most sensitive or if there is ambiguity, then the Permittee may proceed with suites of screening tests for a minimum of three, but not to exceed five suites.

The species used to conduct the receiving water monitoring shall be the most sensitive species from the most recent species sensitivity screening.

During the calendar month, toxicity tests used to determine the most sensitive test species shall be reported as effluent compliance monitoring results for the chronic toxicity MDEL and MMEL.

5. **Quality Assurance and Additional Requirements**

Quality assurance measures, instructions, and other recommendations and requirements are found in the test methods manual previously referenced. Additional requirements are specified below.

a. The discharge is subject to determination of “Pass” or “Fail” from a chronic toxicity test using the Test of Significant Toxicity statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1, and Table A-1, and Appendix B, Table B-1. The null hypothesis (H_o) for the TST statistical approach is: Mean discharge IWC response ≤0.75 × Mean control response. A test result that rejects this null hypothesis is reported as “Pass”. A test result that does not reject this null hypothesis is reported as “Fail”. The relative “Percent Effect” at the discharge IWC is defined and reported as: ((Mean control response - Mean discharge IWC response) ÷ Mean control response)) × 100. This is a t-test (formally Student’s t-Test), a statistical analysis comparing two sets of replicate observations – in the case of WET, only two test concentrations (i.e. a control and IWC). The purpose of this statistical test is to determine if the means of the two sets of observations are different (i.e. if the IWC or receiving water concentration differs from the control (the test result is “Pass” or “Fail”)). The Welch’s t-test employed by the TST statistical approach is an adaptation of Student’s t-test and is used with two samples having unequal variances.

b. The Median Monthly Effluent Limitation (MMEL) for chronic toxicity only applies when there is a discharge on more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests may be conducted when one toxicity test results in “Fail”.

c. If the effluent toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995) (see Table E-4, below), then the Permittee must re-sample and re-test within 14 days.

Table E-4. USEPA Test Methods and Test Acceptability Criteria

Species & U.S. EPA Test Method Number	Test Acceptability Criteria (TAC)
Topsmelt, *Atherinops affinis*, Larval Survival and Growth Test Method 1006.01. (Table 3 of Test Method)	80% or greater survival in controls; average dry weight per surviving organism in control chambers equals or exceeds 0.85 mg. LC50 with copper must be ≤ 205 µg/L, <25% MSD for survival and <50% MSD for growth. (required)
Purple Sea Urchin, *Strongylocentrotus purpuratus*, and the Sand Dollar, *Dendraster excentricus,* Fertilization Test Method 1008.0 (Table 7 of Test Method)	70% or greater egg fertilization in controls, must achieve a MSD of <25%, and appropriate sperm counts. (required)
Red Abalone, *Haliotis rufescens*, Larval Shell Development Test Method (Table 3 of Test Method)	80% or greater normal shell development in the controls; must have statistical significant effect at 56 µg/L zinc and achieve a MSD of <20%. (required)
Giant Kelp, *Macrocystis pyrifera*, Germination and Growth Test Method 1009.0 (Table 3 of Test Method)	70% or greater germination in controls, ≥ 10 µm germ-tube length in controls, NOEC must be below 35 µg/L in the reference toxicant test, and must achieve a MSD of <20% for both germination and germ-tube length in the reference toxicant. (required)

d. Dilution water and control water, including brine controls, shall be laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.

e. Monthly reference toxicant testing is sufficient. All reference toxicant test results should be reviewed and reported using the EC25[15].

f. The Permittee shall perform toxicity tests on final effluent samples. Chlorine and ammonia shall not be removed from the effluent sample prior to toxicity testing, unless explicitly authorized under this section of the Monitoring and Reporting Program and the rationale is explained in the Fact Sheet (Attachment F).

6. **Preparation of an Initial Investigation Toxicity Reduction Evaluation (TRE) Work Plan**

The Permittee shall prepare and submit a copy of the Permittee's initial investigation TRE work plan to the Executive Officer of the Regional Water Board for approval within 90 days of the effective date of this permit. If the Executive Officer does not disapprove the work plan within 60 days, the work plan shall become effective. The Permittee shall

[15] EC25 is a point estimate of the toxicant concentration that would cause an observable adverse effect (e.g. death, immobilization, or serious incapacitation) in 25 percent of the test organisms.

use USEPA manual EPA/833B-99/002 (municipal) as guidance, or most current version. At a minimum, the TRE Work Plan must contain the provisions in Attachment G. This work plan shall describe the steps that the Permittee intends to follow if toxicity is detected. At a minimum, the TRE Work Plan must contain the provisions in Attachment G. This work plan shall describe the steps that the Permittee intends to follow if toxicity is detected. At minimum the work plan shall include:

a. A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.

b. A description of the Facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in the operation of the Facility; and,

c. If a TIE is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor).

7. **Accelerated Monitoring Schedule for Monthly Median Summary Result: "Fail"; and Accelerated Monitoring Schedule for Maximum Daily Single Result: "Fail and % Effect ≥50".**

When there is discharge more than one day in a calendar month, the Median Monthly summary result shall be used to determine if accelerated testing needs to be conducted. When there is discharge only one day in a calendar month, the Maximum Daily single result shall be used to determine if accelerated testing needs to be conducted.

Once the Permittee becomes aware of this result, the Permittee shall implement an accelerated monitoring schedule within 5 calendar days of the receipt of the result. However, if the sample is contracted out to a commercial laboratory, the Permittee shall ensure that the first of four accelerated monitoring tests is initiated within seven calendar days of the Permittee becoming aware of the result. The accelerated monitoring schedule shall consist of four toxicity tests (including the discharge IWC), conducted at approximately two week intervals, over an eight week period; in preparation for the TRE process and associated reporting, these results shall also be reported using the EC25. If each of the accelerated toxicity tests results in "Pass", the Permittee shall return to routine monitoring for the next monitoring period. If one of the accelerated toxicity tests results in "Fail", the Permittee shall immediately implement the TRE Process conditions set forth below. During accelerated monitoring schedules, only TST results ("Pass" or "Fail", "Percent Effect") for chronic toxicity tests shall be reported as effluent compliance monitoring results for the chronic toxicity MDEL and MMEL.

8. **Toxicity Reduction Evaluation (TRE) Process**

During the TRE Process, monthly effluent monitoring shall resume and TST results ("Pass" or "Fail", "Percent Effect") for chronic toxicity tests shall be reported as effluent compliance monitoring results for the chronic toxicity MDEL and MMEL.

a. **Preparation and Implementation of Detailed TRE Work Plan.** The Permittee shall immediately initiate a TRE using, according to the type of treatment facility, USEPA manual *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (EPA/833/B-99/002, 1999) and, within 15 days, submit to the Executive Officer a Detailed TRE Work Plan, which shall follow the generic Initial Investigation TRE Work Plan revised as appropriate for this toxicity event. It shall include the following information, and comply with additional conditions set by the Executive Officer:

i. Further actions by the Permittee to investigate, identify, and correct the causes of toxicity.

ii. Actions the Permittee will take to mitigate the effects of the discharge and prevent the recurrence of toxicity.

iii. A schedule for these actions, progress reports, and the final report.

b. **TIE Implementation.** The Permittee may initiate a TIE as part of a TRE to identify the causes of toxicity using the same species and test method and, as guidance, USEPA manuals: *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003, 1991); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, 1993); and *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA/600/R-96-054, 1996). The TIE should be conducted on the species demonstrating the most sensitive toxicity response.

c. Many recommended TRE elements parallel required or recommended efforts for source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. As toxic substances are identified or characterized, the Permittee 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 toxicity evaluation parameters.

d. The Permittee shall continue to conduct routine effluent monitoring for compliance determination purposes while the TIE and/or TRE is taking place. Additional accelerated monitoring and TRE work plans are not required once a TRE has begun.

e. The Regional Water Board recognizes that toxicity may be episodic and identification of causes and reduction of sources of toxicity may not be successful in all cases. The TRE may be ended at any stage if monitoring finds there is no longer toxicity.

9. **Reporting**

The Self-Monitoring Report (SMR) shall include a full laboratory report for each toxicity test. This report shall be prepared using the format and content of the test methods manual chapter called Report Preparation, and shall include:

1. Test results shall be reported in percent survival for acute toxicity tests.

2. The valid toxicity test results for the TST statistical approach, reported as “Pass” or “Fail” and “Percent Effect” at the chronic toxicity IWC for the discharge. All toxicity test results (whether identified as valid or otherwise) conducted during the calendar month shall be reported on the SMR due date specified in Table E-13.

3. Summary water quality measurements for each toxicity test (e.g. pH, dissolved oxygen, temperature, conductivity, hardness, salinity, chlorine, ammonia).

4. The statistical analysis used in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) Appendix A, Figure A-1 and Table A-1, and Appendix B, Table B-1.

5. TRE/TIE results. The Executive Officer shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses. Prior to completion of the final TIE/TRE report, the Permittee shall provide status updates in the monthly monitoring reports, indicating which TIE/TRE steps are underway and which steps have been completed.
6. Statistical program (e.g., TST calculator, CETIS, etc.) output results, including graphical plots, for each toxicity test.
7. Graphical plots clearly showing the laboratory's performance of the reference toxicant for the previous 20 tests and the laboratory's performance of the control mean, control standard deviation, and control coefficient of variation for the previous 12-month period.
8. Any additional QA/QC documentation or any additional chronic toxicity-related information, upon written request of the Regional Water Board Chief Deputy Executive Officer or Executive Officer.

B. Ammonia Removal

1. Except with prior approval from the Executive Officer of the Regional Water Board, ammonia shall not be removed from bioassay samples. The Permittee must demonstrate the effluent toxicity is caused by ammonia because of increasing test pH when conducting the toxicity test. It is important to distinguish the potential toxic effects of ammonia from other pH sensitive chemicals, such as certain heavy metals, sulfide, and cyanide. The following may be steps to demonstrate that the toxicity is caused by ammonia and no other toxicants before the Executive Officer would allow for control of pH in the test.
   a. There is consistent toxicity in the effluent and the maximum pH in the toxicity test is in the range to cause toxicity due to increased pH.
   b. Chronic ammonia concentrations in the effluent are greater than 4 mg/L total ammonia.
   c. Conduct graduated pH tests as specified in the toxicity identification evaluation methods. For example, mortality should be higher at pH 8 and lower at pH 6.
   d. Treat the effluent with a zeolite column to remove ammonia. Mortality in the zeolite treated effluent should be lower than the non-zeolite treated effluent. Then add ammonia back to the zeolite-treated samples to confirm toxicity due to ammonia.
2. When it has been demonstrated that toxicity is due to ammonia because of increasing test pH, pH may be controlled using appropriate procedures which do not significantly alter the nature of the effluent, after submitting a written request to the Regional Water Board, and receiving written permission expressing approval from the Executive Officer of the Regional Water Board.

C. Chlorine Removal

Except with prior approval from the Executive Officer of the Regional Water Board, chlorine shall not be removed from bioassay samples.

VII. LAND DISCHARGE MONITORING REQUIREMENTS (NOT APPLICABLE)

VIII. RECYCLING MONITORING REQUIREMENTS (NOT APPLICABLE)

IX. RECEIVING WATER MONITORING REQUIREMENTS

All receiving water stations shall be located by state-of-the-art navigational methods (e.g. DGPS); other means (e.g. visual triangulation, fathometer readings) may be used to improve the accuracy of locating stations. Forty-five stations are located around the outfall, harbor, shallow water habitat, near Cabrillo Beach, and outside of the harbor. These stations are used to collect samples of water quality, bacteria, benthos, sediment chemicals, and fish tissue.

In the event that a sampling station is temporarily or permanently obstructed for reasons including, but not limited to, construction activities for creating new habitat, storage sites, or pier, the station may be abandoned upon notification of the Regional Water Board once final determination is made regarding the status of such station.

The Permittee shall report the locations (latitude and longitude) of any relocated stations to the Regional Water Board within 15 days of the effective date of this order or within 15 days after a station(s) become(s) obstructed. All receiving water stations may be subject to redesignation by the Regional Water Board.

If any of the monitoring requirements listed below are conducted during the same season and location as the monitoring requirements in the Coordinated Compliance Monitoring and Reporting Plan required under the Harbor Toxics TMDL, then those monitoring requirements do not need to be duplicated. In lieu of duplicative sampling, the permittee may submit the monitoring data, a report interpreting the data, and related QA/QC documentation in the corresponding monitoring report required under this Order.

A. Harbor Water Quality Monitoring

1. Sampling shall consist of quarterly water quality surveys for water quality profiles, weather and sea-surface observations, and discrete samples conducted during the 1st quarter (January, February, and March), the 2nd quarter (April, May, and June), the 3rd quarter (July, August, and September), and the 4th quarter (October, November, and December). Surface discrete samples shall be taken at 12 stations (HW20, HW23, HW24, HW33, HW44, HW49, HW50, HW53, HW54, HW56, HW62, and HW64, Figure E-1) for fecal coliform microbiological and ammonia analysis. Depth profiles for salinity, temperature, transmissivity, density, dissolved oxygen, chlorophyll, and pH shall be conducted quarterly at all 20 harbor stations (HW20, HW21, HW23, HW24, HW33, HW40, HW41, HW43, HW44, HW47, HW49, HW50, HW51, HW53, HW54, HW56, HW62, HW63, HW64, and HW65, Figure E-1). Profiles shall be extended from the surface to as close to the bottoms as practicable using standard oceanographic sampling procedures. The monitoring parameter shall be coordinated with conductivity-temperature-depth (CTD) operations in order to obtain discrete samples simultaneously with commencement of the CTD cast.

Table E-5. Receiving Water Quality Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Salinity	psu	Discrete sampling at specified depths[16]	quarterly	[17]
Temperature	°C	Discrete sampling at specified depths[16]	quarterly	[17]
Transmissivity	% transmission	Discrete sampling at specified depths[16]	quarterly	[18]
Density	kg/m^3	Discrete sampling at specified depths[16]	quarterly	[17]
Dissolved Oxygen	mg/L	Discrete sampling at specified depths[16]	quarterly	[17]
Chlorophyll	µg/L	Discrete sampling at specified depths[16]	quarterly	[17]
pH	pH units	Discrete sampling at specified depths[16]	quarterly	[17]
Fecal Coliform/ *E. coli*	MPN or CFU/100mL	Discrete surface sample[19]	quarterly	[17]
Ammonia	µg/L	Discrete surface sample[19]	quarterly	[17]
Observations[20]	---	---	quarterly	---

2. In the event of stormy weather that makes sampling hazardous or impractical, these samples can be omitted, provided that such omissions do not occur in consecutive weeks or in more than four weeks in a calendar year.

3. If a kelp bed is present at any of the 23 harbor stations, sampling shall be conducted at the edge of the kelp bed. The actual locations of all sampling stations shall be reported in the monthly monitoring reports.

[16] Depth profile measurement shall be obtained by using multiple sensors to measure parameters throughout the entire water column (from the surface within the first 0.5 m to 2 m above the seabed, or as close to the bottom as practicable).

[17] Pollutants shall be analyzed using the analytical methods described in 40 CFR 136; where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or State Water Resources Control Board. For any pollutant whose effluent limitation is lower than all the minimum levels (MLs) specified in Attachment 4 of the SIP, the analytical method with the lowest ML must be selected.

[18] Light transmittance (transmissivity) shall be measured with a transmissometer. Results shall be expressed as the percent of light transmittance. Path length of transmissometer should be noted.

[19] All Harbor bacteriological and ammonia samples shall be collected just below the surface within the first 0.5 meter.

[20] Receiving Water Observations of water color, turbidity, odor, and unusual or abnormal amounts of floating or suspended matter in the water or on the beach, rocks and jetties, or beach structures shall be made and recorded at stations. The character and extent of such matter shall be described. The dates, times and depths of sampling and these observations shall also be reported.

B. Microbiological Monitoring

1. Microbiological monitoring shall be conducted at 7 stations (HW07, HW16, HW29, HW33, HW49, HW56, and HW64, Figure E-2) as follows:

Table E-6. Bacteria Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total coliform[21]	MPN or CFU/100 mL	Surface[19]	5 times/ month	[17]
Enterococcus[21]	MPN or CFU /100 mL	Surface[19]	5 times/ month	[17]
Fecal coliform/ *E. coli*[21]	MPN or CFU /100 mL	Surface[19]	5 times/ month	[17]
Observations[22]	---	---	5 times/ month	---

2. Microbiological monitoring shall be conducted at 7 stations (HW 20, HW24, HW44, HW50, HW53, HW54, and HW62, Figure E-2) as follows:

Table E-7. Additional Bacteria Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Fecal coliform/ *E. coli*[21]	MPN or CFU /100 mL	Surface[19]	monthly	[17]
Observations[22]	---	---	monthly	---

In the event of stormy weather that makes sampling hazardous or impractical, these samples can be omitted, provided that such omissions do not occur in consecutive weeks or in more than four weeks in a calendar year.

If a kelp bed is present at any 17 harbor stations (Figure E-2), sampling shall be conducted at the edge of the kelp bed. The actual locations of all sampling stations shall be reported in the monthly monitoring reports.

If another stakeholder, or interested party in the watershed conducts a similar study or similar monitoring as that which is specified in this MRP, then the Permittee may, in lieu

[21] In addition to reporting the actual concentration of bacterial organisms in each sample collected from shoreline and harbor stations, the median of the latest 6-month period shall also be determined and reported. During a wet-weather event, storm water runoff will impact inshore and offshore stations. The day of rain (0.1 inch and greater) plus three following days' worth of bacteriology data should be excluded from Single Sample and Geomean limits.

[22] Receiving Water Observations of water color, turbidity, odor, and unusual or abnormal amounts of floating or suspended matter in the water or on the beach, rocks and jetties, or beach structures shall be made and recorded at stations. The character and extent of such matter shall be described. The dates, times and depths of sampling and these observations shall also be reported. Daily rainfall data should be obtained from the National Weather Service for the Los Angeles Civic Center.

of duplicative sampling, submit the results of the study and other relevant information, such as raw data, related QA/QC documentation, etc., in the corresponding monitoring report.

C. Acute Toxicity Monitoring and Trigger Requirements

1. Acute toxicity monitoring shall be conducted at 2 harbor stations (Figure E-3) as follows.

Table E-8. Toxicity Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Acute Toxicity (HW23 and HW33)	% Survival	mid-depth	quarterly	N/A

2. Acute toxicity is the measure of primarily lethal effects that occur over a 96-hour period. Acute toxicity shall be measured in percent survival measured in undiluted (100%) receiving water.

   a. The average survival in the undiluted effluent for any three consecutive 96-hour static renewal or continuous flow bioassay tests shall be at least 90%, and

   b. No single test shall produce less than 70% survival.

3. In the event of stormy weather that makes sampling hazardous or impractical, these samples may be omitted.

4. If a kelp bed is present at any of the 4 harbor stations (Figure E-3), sampling shall be conducted at the edge of the kelp bed. The actual locations of all sampling stations shall be reported in the monitoring reports.

5. Toxicity monitoring and the other monitoring shall be conducted at the harbor stations on the same day, if practical.

6. If the first two years of data do not show any exceedances, then the sample frequency will be reduced from quarterly to semiannually. In the event of an additional exceedance, the sampling frequency shall be immediately increased back to quarterly, until two years of data no longer show any exceedances.

7. Acute Toxicity Monitoring Program

   a. **Test Method and Test Species.** The Permittee shall conduct 96-hour static renewal acute toxicity tests on receiving water grab samples, generally by methods specified in 40 CFR Part 136 which cites USEPA's *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, October 2002, USEPA, Office of Water, Washington D.C. (EPA/821/R-02/012) or a more recent edition to ensure compliance. The Permittee shall use marine vertebrate (Topsmelt, *Atherinops affinis*) and a marine invertebrate species (West Coast mysid, *Holmesimysis costata*) of Pacific Coast waters, which are specified in USEPA's *Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and*

Estuarine Organisms, First Edition, August 1995 (EPA/600/R-95/136). However, if *Holmesimysis costata* is not available, then East Coast Mysid, *Americamysis bahia* can be used for test species, because *Holmesimysis costata* may not be easily cultured, tested, or available from commercial sources.

b. **Alternate Reporting.** For the acute toxicity testing with topsmelt (*Atherinops affinis*), the Permittee may elect to report the results or endpoint from the first 96 hours of the chronic toxicity test as the results of the acute toxicity test, using USEPA's August 1995 method (EPA/600/R-95/136) to conduct the chronic toxicity test.

c. **Frequency**

i. **Screening –** The Permittee shall conduct the first acute toxicity test screening using a marine vertebrate species (Topsmelt, *Atherinops affinis*) and a marine invertebrate species (West Coast mysid, *Holmesimysis costata*) for three consecutive months in 2015.

ii. **Re-screening** is required every 24 months. The Permittee shall re-screen with a marine vertebrate species and a marine invertebrate species and continue to monitor with the most sensitive species. If the first suite of re-screening tests demonstrates that the same species is the most sensitive, then the re-screening does not need to include more than one suite of tests. If a different species is the most sensitive or if there is uncertainty, then the Permittee shall proceed with suites of screening tests for a minimum of three, but not to exceed five suites.

iii. **Regular toxicity tests –** After the screening period, monitoring shall be conducted quarterly using the most sensitive marine species.

d. **Acute Toxicity Accelerated Monitoring**. If either of the above requirements (receiving water acute toxicity requirements in Section IX.C.2.a. and IX.C.2.b.) is not met, the Permittee shall conduct six additional tests, approximately every two weeks, over a 12-week period. The Permittee shall ensure that they receive results of a failing toxicity test within 24 hours of the close of the test and the additional tests shall begin within 5 business days of the receipt of the result. If the additional tests indicate compliance with the toxicity limitation, the Permittee may resume regular testing.

e. **Toxicity Identification Evaluation (TIE).**

i. If the results of any two of the six accelerated tests are less than 90% survival, then the Permittee shall immediately begin a Toxicity Identification Evaluation (TIE) and implement the Initial Investigation Toxicity Reduction Evaluation (TRE) work plan. The TIE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Permittee shall take all reasonable steps to reduce toxicity to meet the objective.

ii. If the initial test and any of the additional six acute toxicity bioassay tests results are less than 70% survival, the Permittee shall immediately begin a Toxicity Identification Evaluation (TIE) and implement Initial Investigation Toxicity Reduction Evaluation (TRE) work plan. Once the sources are

identified the Permittee shall take all reasonable steps to reduce toxicity to meet the requirements.

D. Chronic Toxicity Monitoring

1. Chronic toxicity monitoring shall be conducted at 2 harbor stations (Figure E-3) as follows.

Table E-9. Chronic Toxicity Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Chronic Toxicity[23] (HW24 and HW43)	Pass or Fail, % Effect (TST)	mid-depth	quarterly	TST

2. In the event of stormy weather that makes sampling hazardous or impractical, these samples may be omitted.

3. If a kelp bed is present at any of the 4 harbor stations (Figure E-3), sampling shall be conducted at the edge of the kelp bed. The actual locations of all sampling stations shall be reported in the monitoring reports.

4. Toxicity monitoring and the other monitoring shall be conducted at the harbor stations on the same day, if practical.

5. If the first two years of data do not show any exceedances, then the sample frequency will be reduced from quarterly to semiannually. In the event of an additional exceedance, the sampling frequency shall be immediately increased back to quarterly, until two years of data no longer show any exceedances.

E. Harbor Bottom Monitoring

1. Sediment/Chemical Monitoring

One sample (upper five centimeters) shall be collected at 11 harbor stations (HM2 to HM4 and HM6 to HM13, Figure E-4) with a VanVeen sediment grab and analyzed for the following parameters during the third quarter of each year (July, August, and September):

[23] The Permittee shall conduct Whole Effluent Toxicity monitoring as outlined in section VI. Please refer to section VI.A.7. of the MRP for the accelerated monitoring schedule. The median monthly summary result is a threshold value for a determination of not meeting the narrative receiving water objective and shall be reported as “Pass” or “Fail”. The maximum daily single result is a threshold value for the determination of meeting the narrative receiving water objective and shall be reported as “Pass” or “Fail” and “% Effect”. Up to three independent toxicity tests may be conducted when one toxicity test results in “Fail”. If the chronic toxicity median monthly threshold at the ambient receiving water locations are not met and the toxicity cannot be attributed to ambient toxicity, as assessed by the Permittee, then the Permittee shall initiate accelerated monitoring. If the chronic toxicity median monthly threshold of the receiving water at the ambient receiving water stations is not met, but the effluent chronic toxicity median monthly effluent limitation was met, then accelerated monitoring need not be implemented.

Table E-10. Harbor Bottom Monitoring Requirements

Constituent	Units	Sample Type	Frequency
Arsenic	mg/kg	Grab	Annually
Cadmium	mg/kg	Grab	Annually
Chromium	mg/kg	Grab	Annually
Copper	mg/kg	Grab	Annually
Lead	mg/kg	Grab	Annually
Mercury	mg/kg	Grab	Annually
Nickel	mg/kg	Grab	Annually
Silver	mg/kg	Grab	Annually
Zinc	mg/kg	Grab	Annually
Phenolic Compounds (chlorinated)	mg/kg	Grab	Annually
Phenolic Compounds (non-chlorinated)	mg/kg	Grab	Annually
Total Halogenated Organic Compounds	mg/kg	Grab	Annually
Aldrin	mg/kg	Grab	Annually
Dieldrin	mg/kg	Grab	Annually
Endrin	mg/kg	Grab	Annually
Hexachlorocyclohexane	mg/kg	Grab	Annually
Chlordane[24]	mg/kg	Grab	Annually
Total DDT	mg/kg	Grab	Annually
DDT Derivatives[25]	mg/kg	Grab	Annually
Total PCB[26] (Polychlorinated Biphenyls)	mg/kg	Grab	Annually
PCB Derivatives[27]	mg/kg	Grab	Annually
Toxaphene	mg/kg	Grab	Annually
Total PAH (Polycyclic Aromatic Hydrocarbons) [28]	mg/kg	Grab	Annually
Acid Volatile Sulfides	mg/kg	Grab	Annually
Orthophosphate (OP) Pesticides	mg/kg	Grab	Annually

[24] At a minimum, chlordane monitoring includes both the alpha and gamma congeners.

[25] At a minimum, 4,4' DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD and 2,4'-DDD.

[26] At a minimum, chlorinated biphenyl congeners whose analytical characteristics resemble those of PCB-18, 28, 37, 44, 49, 52, 66, 70, 74, 77, 81, 87, 99, 101, 105, 110, 114, 118, 119, 123, 126, 128, 138, 149, 151, 153, 156, 157, 158, 167, 168, 169, 170, 177, 180, 183, 187, 189, 194, 201, and 206 shall be individually quantified.

[27] At a minimum, chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

[28] Total PAH includes both total high molecular weight PAHs and total low molecular weight PAHs.

Constituent	Units	Sample Type	Frequency
Ammonia Nitrogen	mg/kg	Grab	Annually
Chlorinated Hydrocarbons	mg/kg	Grab	Annually
PAH Derivatives[29]	mg/kg	Grab	Annually
Detected Priority Pollutants[30]	mg/kg	Grab	Annually
Compounds on local 303(d) List	mg/kg	Grab	Annually
Dissolved Sulfides (pore water)	mg/kg	Grab	Annually
TOC	mg/kg	Grab	Annually
Grain Size[31]	% by weight	Grab	Annually

If a kelp bed is present at any of the 11 harbor stations (Figure E-4), sampling shall be conducted at the edge of the kelp bed. The actual locations of all sampling stations shall be reported in the monitoring reports.

2. Sediment Toxicity Monitoring

The Discharger shall conduct annual sediment toxicity monitoring in conjunction with the sediment chemical monitoring described above at all eleven monitoring stations (HM2 to HM4 and HM6 to HM13, Figure E-4). Testing shall be conducted using the amphipod species *Eohaustorius estuarius* using an approved USEPA test method. Test results shall be reported as percent survival and shall be included in the annual monitoring report.

3. Local Benthic Survey

This survey investigates how benthic conditions under the influence of the discharge are changing over time, if at all. The data collected are used for regular assessment of trends in sediment contamination and biological response along a fixed grid of sites within the influence of the discharge.

a. Eleven harbor stations (HM2 to HM4 and HM6 to HM13, Figure E-4) shall be sampled annually during the 3rd quarter (July, August, and September) for benthic monitoring following protocol described in the most current edition of the Field Operations Manual for Marine Water-Column, Benthic and Trawl Monitoring in southern California. One sample shall be taken at each station for benthic infauna for community analyses by means of a 0.1 m^2 (1.1 ft^2) modified VanVeen sediment

[29] At a minimum acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene, and pyrene.

[30] Detected priority pollutants are those previously measured in detectable concentrations in effluent, sludge, sediment and tissue analyses. A tentative list of detected priority pollutants shall be submitted to the Executive Officer for approval prior to conducting the priority pollutant analyses.

[31] Sufficiently detailed to calculate percent weight in relation to phi size.

grab sampler. The entire contents of each sample shall be passed through a 1.0-mm screen to retrieve the benthic organisms.

b. The following determinations shall be made for each station, where appropriate: identification of all organisms to lowest possible taxon; community structure analysis for each station[32]; mean, range standard deviation, and 95% confidence limits, if appropriate, for value determined in the community analysis. The discharger may be required to conduct additional "statistical analyses" to determine temporal and spatial trends in the marine environment.

If a kelp bed is present at any of the 11 harbor stations (Figure E-4), sampling shall be conducted at the edge of the kelp bed. The actual locations of all sampling stations shall be reported in the monitoring reports.

4. **Local Demersal Fish and Invertebrate Survey**

This survey investigates how the health of demersal fish and epibenthic invertebrate communities in the vicinity of the discharge are changing over time, if at all. The data collected are used for regular assessment of temporal trends in community structure along an array of sites within the influence of the discharge. Data will also be collected on trash and debris to contribute to the Santa Monica Bay Restoration Project's Sources and Loadings Program.

a. Six trawling stations (HT5A, HT7, HT9, HT10, HT12, and HT13, Figure E-5) shall be sampled biannually in the 3rd quarter (July, August, and September) and the 1st quarter (January, February, and March) for demersal fish and epibenthic invertebrates following protocol described in the most current edition of the Field Operations Manual for Marine Water-Column, Benthic and Trawl Monitoring in Southern California. Trawling shall be conducted at each station with a standard 7.62-meter head rope otter trawl (1.5-inch mesh in the body at the net and 0.5-inch mesh in the cod end), towed parallel to the specified depth contour for a duration of 5 minutes (elapsed bottom time) at a uniform speed approximately 2.0 knots.

b. Fish and invertebrates collected by trawls shall be identified to the lowest possible taxon. Fish shall be size-classed[33]. Wet-weight biomass shall be estimated for all species. Community structure analyses shall be conducted for each station[34].

[32] Community analysis of benthic infauna shall include number of species, number of individuals per species, total numerical abundance per station, Benthic Response Index (BRI) or other appropriate indices, plus utilize appropriate regression analyses, parametric and nonparametric statistics, and multivariate techniques or other appropriate analytical techniques.

[33] An attempt should be made to size-class all fish. For the rare occasions when size classing is not possible (e.g., a huge catch of a single species), a subsample of several hundred fish should be measured. When this occurs, the reason should be noted on the data sheet.

[34] Including wet weight of fish and invertebrate species (all individuals of a species should be collectively weighted to the nearest 0.1Kg), number of species, number of individuals per species, total numerical abundance per station, number of individuals in each 1-centimeter size class for each species of fish, species of richness, species diversity (e.g.. Shannon-Wiener), species evenness and dominance, similarity analysis (e.g., Bray-Curtis, Jaccard, or Sorenson) cluster analyses or other appropriate multivariate statistical techniques approved by the Executive Officer. Mean, standard, deviation, and 95% confidence limits, if appropriate, shall be calculated for these values.

Abnormalities and disease symptoms shall be described and recorded (e.g. Fin erosion, lesions, tumors, parasites and color abnormalities).

5. **Local Bioaccumulation Trends Survey**

This survey investigates how fish tissue contamination in the vicinity of the outfall is changing over time, if at all. The data collected are used for regular assessment of temporal trends in white croaker (*Genyonemus lineatus*) tissue.

a. Muscle and liver tissue analyses for selected priority pollutants and lipids shall be conducted annually on white croaker. Ten individuals[35] shall be collected by divers with spear guns or by hand, hook and line, or trawl, from the vicinity of the TIWRP discharge area.

b. Each individual muscle tissue sample shall be analyzed separately. Liver tissue samples from each site may be combined to form two composites representing five individuals each or each individual liver tissue may be analyzed separately.

c. Tissue samples from white croaker shall be analyzed for the following priority pollutants and other parameters: total DDT, DDT derivatives, total PCB, PCB derivatives, wet weight, and % lipid.

6. **Local Seafood Safety Survey**

This survey investigates whether or not seafood concentrations are below levels that will ensure public safety.

a. Muscle tissue analyses for selected priority pollutants and lipids shall be conducted annually on a sport fish other than white croaker. Ten individuals[36] shall be collected by divers with spear guns or by hand, hook and line, or trawl, from within the Outer Harbor.

b. Each individual muscle tissue sample shall be analyzed separately.

c. Tissue samples from the sport fish shall be analyzed for the following priority pollutants and other parameters: total DDT, DDT derivatives, total PCB, PCB derivatives, wet weight, and % lipid."

F. Outfall Monitoring

The outfall shall be inspected a minimum of once every five years. Inspections shall include general observations and photographic records of the outfall pipes and surrounding ocean bottom. A detailed structural analysis of the pipes shall be conducted using underwater television/videotape and visual inspection, where appropriate, to provide a comprehensive, report on the discharge pipe system from shallow water to its respective terminus.

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[35] The ten largest individuals of each fish species collected shall be analyzed. All white croaker shall be larger than 125 millimeters (standard length). Standard length, weight, and gonadal index shall be recorded.

[36] The ten largest individuals of each fish species collected shall be analyzed. All sport fish shall be larger than 125 millimeters (standard length). Standard length, weight, and gonadal index shall be recorded.

Additional parameters for analysis may be added to this list by the Executive Officer.

X. OTHER MONITORING REQUIREMENTS

A. Regional Monitoring

The goals of the Watershed-wide Monitoring Program for the Dominguez Channel – Los Angeles/Long Beach Watershed Management Area are to determine compliance with receiving water limits; monitor trends in surface water quality; ensure protection of beneficial uses; provide data for modeling contaminants of concern; characterize water quality including seasonal variation of surface waters within the watershed; assess the health of the biological community; and determine mixing dynamics of effluent and receiving waters in the estuary.

Regional monitoring may include benthic surveys, demersal fish and invertebrate surveys, and predator risk surveys, but may add or delete surveys as directed by the Steering Committee.

1. **Regional Benthic Survey**

   a. This regional survey addresses the questions: 1) "What is the extent, distribution, magnitude and trend of ecological change in soft-bottom benthic habitats within the Southern California Bight?"; and 2) "What is the relationship between biological response and contaminant exposure?" The data collected will be used to assess the condition of the sea-floor environment and the health of the biological communities in the Bight.

   b. Sampling Design - A regional survey of benthic conditions within the Southern California Bight took place in 2013 (Bight '13). The final survey design was determined cooperatively by participants represented on the Regional Steering Committee. The Permittee provided support to the Bight '13 benthic survey by participating in or performing the following activities:

      Participation on the Steering Committee
      Participation on relevant Technical Committees (e.g., Information Management, Field Methods & Logistics, Benthos, and Chemistry)
      Field sampling at sea
      Infaunal sample analysis
      Sediment chemistry analysis
      Data management

      This level of participation shall be consistent with that provided by the Permittee during the 2013 Regional Benthic Survey. The next regional survey is expected to take place in 2018.

2. **Regional Demersal Fish and Invertebrate Survey**

   a. This regional survey addresses the questions: 1) "What is the extent, distribution, magnitude and trend of ecological change in demersal fish and epibenthic invertebrate communities within the Southern California Bight?" and 2) "What is the relationship between biological response and contaminant exposure?" The data

collected will be used to assess the condition of the sea-floor environment and health of biological resources in the Bight.

b. Sampling Design - A regional survey of trawl-caught demersal fish and epibenthic invertebrates within the Southern California Bight took place in 2013 (Bight '13). The final survey design was determined cooperatively by the participants as represented in the Regional Steering Committee. The Permittee provided support to the Bight '13 survey by participating in or performing the following activities:

Participation on the Steering Committee
Participation on relevant Technical Committees (e.g., Information Management, Field Methods & Logistics, Fish & Invertebrates)
Field sampling at sea
Tissue chemical analysis
Data management

This level of participation shall be consistent with that provided by the Permittee to the 2013 Regional Benthic Survey. The next regional survey is expected to occur in 2018.

3. **Regional Seafood Safety Survey**

a. This regional survey addresses the question: "Are seafood tissue levels within the Southern California Bight below levels that ensure public safety?" The data collected will be used to assess levels of contaminants in the edible tissue of commercial or recreationally important fish within the Bight relative to Advisory Tissue Concentrations.

b. Sampling Design - A regional survey of edible tissue contaminant levels in fish within the Southern California Bight shall be conducted at least once every ten years, encompassing a broader set of sampling sites and target species than those addressed in the local seafood survey. The objective is to determine whether any unexpected increases or decreases in contaminant levels have occurred in non-target species and/or at unsampled sites. The final survey design may be determined cooperatively by participants represented on a Regional Steering Committee or by the State of California's Office of Environmental Health and Hazard Assessment. The Discharger shall provide support to a Regional Seafood Safety Survey by participating in or performing the following activities:

Participation on a Steering Committee
Participation on relevant Technical Committees (e.g., Information Management, Field Methods & Logistics, and Chemistry)
Field sampling at sea
Tissue chemical analysis
Data management

The Permittee's participation shall be consistent with that provided by the Permittee to similar regional bioaccumulation surveys.

4. **Regional Predator Risk Survey**

a. This regional survey addresses the question: “Are fish body burdens within the Southern California Bight a health risk to higher trophic levels in the marine food web?” The data collected will be used to estimate health risk to marine birds, mammals and wildlife from the consumption of fish tissue.

b. Sampling Design - A regional survey of whole fish body burdens of contaminants within the Southern California Bight took place in 2013 (Bight ’13). The final survey design was determined cooperatively by participants represented on the Regional Steering Committee. The Discharger provided support to the Bight ’13 Predator Risk Survey by participating in or performing the following activities:

Participation on the Steering Committee
Participation on relevant Technical Committees (e.g., Information Management, Field Methods & Logistics, and Chemistry)
Field sampling at sea
Tissue chemical analysis

This level of participation shall be consistent with that provided by the Discharger to the 2013 Regional Predator Risk Survey. The next regional survey is expected to occur until in 2018.

5. **Harbor Toxics TMDL Monitoring**

The Permittee shall follow the Coordinated Compliance Monitoring and Reporting Plan submitted to the Regional Water Board and approved by the Executive Officer of the Regional Water Board on June 06, 2014.

The Regional Water Board Executive Officer may reduce, increase, or modify monitoring and reporting requirements, as necessary, based on the results of the TMDL monitoring program. Currently, several of the constituents of concern have numeric targets that are lower than the readily available detection limits. As analytical methods and detection limits continue to improve (i.e., development of lower detection limits) and become more environmentally relevant, responsible parties shall incorporate new method detection limits in the MRP and QAPP.

If any of the monitoring requirements listed below are conducted during the same season and location as the monitoring requirements in the Coordinated Compliance Monitoring and Reporting Plan required under the Harbor Toxics TMDL, then those monitoring requirements do not need to be duplicated. In lieu of duplicative sampling, the permittee may submit the monitoring data, a report interpreting the data, and related QA/QC documentation in the corresponding monitoring report required under this Order.

B. Special Study

1. CEC Monitoring in the Effluent

In recent years, the Los Angeles Regional Water Board has incorporated monitoring of a select group of man-made chemicals, particularly pesticides, pharmaceuticals and personal care products, known collectively as CECs, into permits issued to publicly-owned treatment works (POTWs) to better understand the propensity, persistence and effects of CECs in our environment. Recently adopted permits in this region contain

requirements for CEC effluent monitoring and submittal of a work plan identifying the CECs to be monitored in the effluent, sample type, sampling frequency and sampling methodology. Based on feedback received from Permittees and the Regional Water Board staff review of the results of a recent CEC-related study by the SCCWRP and the State Water Board, the CEC monitoring program has been modified to respond to feedback while proceeding to fill identified data gaps without overly burdening any one permittee. Although 2 years of data have been collected from the TIWRP final effluent for most of the required CECs during the past 5 years, several constituents have only been analyzed once and the collection method that was used for some constituents was determined to be inappropriate so additional monitoring is required.

The Permittee shall conduct a special study to investigate the CECs in the effluent discharged at Discharge Point No. 001 as listed in the table below. The sample shall be collected at the final effluent sampling location where a representative sample of the final effluent can be obtained. These constituents shall be monitored at least twice during the permit cycle. The Regional Water Board has determined that two sampling events are appropriate for the TIWRP. Monitoring results shall be reported as part of the annual report. Analysis under this section is for monitoring purposes only. Analytical results obtained for this study will not be used for compliance determination purposes, since the methods have not been incorporated into 40 CFR part 136.

Table E-11. CECs in the Effluent

Parameter	Units	Reporting Limit	Sample Type	Analytical Method	Minimum Sampling Frequency
Polybrominated Diphenyl Ethers (PBDE 28, 47, 99, 100, 153, 154, 183, 209)	ng/L	100 for PBDE 209 and 5 for all others	Grab	PBDEs	Annually for 2 years
Octylphenol & Octylphenol polyethoxylates	ng/L	100	24-hr Composite	EDC Steroid	Annually for 2 years
TCPP & TDCPP	ng/L	10	24-hr Composite	PPCPs	Annually for 2 years
Bifenthrin	ng/L	5	Grab	Pyrethroids	Annually for 2 years
Permethrin	ng/L	10	Grab	Pyrethroids	Annually for 2 years
Chlorpyrifos	ng/L	10	24-hr Composite	Chlorpyrifos	Annually for 2 years
Galaxolide	ng/L	10	24-hr Composite	Galaxolide	Annually for 2 years
Diclofenac	ng/L	10	24-hr Composite	PPCPs	Annually for 2 years
Perfluoro octanesulfonate (PFOS)	ng/L	40	24-hr Composite	PFOS	Annually for 2 years
Fipronil	ng/L	2	Grab	Fipronil	Annually for 2 years
Meprobamate	ng/L	10	24-hr Composite	PPCPs	Annually for 2 years

XI. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Permittee shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. If there is no discharge during any reporting period, the report shall so state.
3. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and the corrective actions taken or planned that may be needed to bring the discharge into full compliance with waste discharge requirements. This section shall clearly list all non-compliance with discharge requirements, as well as all excursions of effluent limitations.
4. The Permittee shall inform the Regional Water Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.

B. Los Angeles Harbor Toxics TMDL Monitoring and Reporting Requirements

1. Coordinated Compliance Monitoring and Reporting Plan (CCMRP)

   The Permittee shall follow the Coordinated Compliance Monitoring and Reporting Plan submitted to the Regional Water Board and approved by the Executive Officer of the Regional Water Board on June 06, 2014. The first annual report under this monitoring program shall be submitted to the Regional Water Board as soon as the data become available but no later than March 03, 2016.

   The Regional Water Board Executive Officer may reduce, increase, or modify monitoring and reporting requirements, as necessary, based on the results of the TMDL monitoring program. Currently, several of the constituents of concern have numeric targets that are lower than the readily available detection limits. As analytical methods and detection limits continue to improve (i.e., development of lower detection limits) and become more environmentally relevant, responsible parties shall incorporate new method detection limits in the MRP and QAPP.

2. Implementation Plan & Contaminated Sediment Management Plan (CSMP)

   The Permittee has developed and submitted an Implementation Plan and a Contaminated Sediment Management Plan to the Regional Water Board, as required by the Harbor Toxics TMDL. The CSMP was divided into three geographical regions and each region is led by a single group. The lower Harbor is being led by the City of Los Angeles Harbor Department, the Dominguez Channel is being led by the County of Los Angeles, and the Los Angeles River Estuary is being led by the County of Los Angeles and the City of Long Beach. The CSMP is currently under review by the Regional Water Board. The following table is a timeline of the tasks required by the Harbor Toxics TMDL:

Table E-12. Harbor Toxics TMDL Timetable

Task	Deadline
Annual Implementation Reports	March 23, 2016
Complete Phase I of TMDL Implementation Plan and Contaminated Sediment Management Plan	March 23, 2017
Submit updated Implementation Plan and Contaminated Sediment Management Plan	March 23, 2017

Report on status of implementation, scope, and schedule of remaining Phase II implementation actions to the Regional Water Board	March 23, 2022
Complete Phase II of the TMDL Implementation plan and Sediment Management Plan	March 23, 2027
Complete Phase III of the TMDL Implementation Plan and Contaminated Sediment management Plan	March 23, 2032
Demonstrate attainment of LAs and WLAs using the means identified	March 23, 2032

C. Self-Monitoring Reports (SMRs)

1. The Permittee shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program website (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS website will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.
2. The Permittee shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Permittee shall submit monthly, quarterly, semiannual, and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the Permittee 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-13. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	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	1st day of calendar month through last day of calendar month	By the 15th day of the third month after the month of sampling
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 to March 31 April 1 to June 30 July 1 to September 30 October 1 to December 31	June 15 September 15 December 15 March 15

Sampling Frequency	Monitoring Period Begins	Monitoring Period	SMR Due Date
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 to March 31 July 1 to September 30	June 15 March 15
Annually	January 1 following (or on) permit effective date	July 1 to September 30	April 15
Annually (CECs)	TBD	1st half of calendar year	April 15

4. **Reporting Protocols.** The Permittee shall report with each sample result the applicable RL and the current MDL, as determined by the procedure in 40 CFR part 136.

   The Permittee 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. 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 (± 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. Permittee 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 Permittee to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. **Compliance Determination.** Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined above and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional Water Board and State Water Board, the Permittee 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 RL.

6. **Multiple Sample Data.** When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of DNQ or ND, the Permittee shall compute the median in place of the arithmetic mean in accordance with the following procedure:

a. 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.

b. 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.

7. The Permittee shall submit SMRs in accordance with the following requirements:

a. The Permittee 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 Permittee 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 Permittee shall electronically submit the data in a tabular format as an attachment.

b. The Permittee shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify instances of non-compliance or exceedances of effluent limitations 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.

D. Discharge Monitoring Reports (DMRs)

The Permittee shall submit DMRs electronically via CIWQS.

E. Other Reports

1. **Pretreatment Report**

The Permittee shall submit annual pretreatment reports to the Regional Water Board, with copies to the State Water Board, and USEPA Region 9, describing the Permittee's pretreatment activities over the period. The annual reports shall contain, but not be limited to, the information required in the attached *Pretreatment Reporting Requirements* (Attachment I), or an approved revised version thereof. If the Permittee is not in compliance with any conditions or requirements of this Order, the Permittee shall include the reasons for noncompliance and shall state how and when the Discharger will comply with such conditions and requirements.

2. The Permittee shall report the results of any special studies, chronic toxicity testing, TRE/TIE, Pollutant Minimization Program (PMP), and Pollution Prevention Plan required by Special Provisions – section VI.C. The Permittee shall report the progress in satisfaction of compliance schedule dates specified in Special Provisions – VI.C.7. The Permittee shall submit reports in compliance with SMR reporting requirements described in subsection XI.C above.

3. **Annual Summary Report**

By April 15 of each year, the Permittee shall submit an annual report containing a discussion of the previous year's influent/effluent analytical results and receiving water bacterial monitoring data. The annual report shall contain an overview of any plans for upgrades to the treatment plant's collection system, the treatment processes, or the

outfall system. The Permittee shall submit annual report to the Regional Water Board in accordance with the requirements described in subsection XI.C.7 above.

Each annual monitoring report shall contain a separate section titled "Reasonable Potential Analysis" which discusses whether or not reasonable potential was triggered for pollutants which do not have a final effluent limitation in the NPDES permit. This section shall contain the following statement: "The analytical results for this sampling period did/ did not trigger reasonable potential." If reasonable potential was triggered, then the following information should also be provided:

a. A list of the pollutant(s) that triggered reasonable potential;

b. The Basin Plan or CTR criteria that was exceeded for each given pollutant;

c. The concentration of the pollutant(s);

d. The test method used to analyze the sample; and,

e. The date and time of sample collection.

4. Receiving Water Monitoring Report

An annual summary of the receiving water monitoring data collected during each sampling year (January-December) shall be prepared and submitted so that it is received by the regional Water Board by August 1st of the following year.

A detailed Receiving Water Monitoring Biennial Assessment Report of the data collected during the two previous calendar sampling years (January-December) shall be prepared and submitted so that it is received by the Regional Water Board and USEPA Region IX by August 1st of every other year. This report shall include an annual data summary and shall also include an in-depth analysis of the biological and chemical data following recommendations in *Design of 301(h) Monitoring Programs for Municipal Wastewater Discharges to Marine Water* (EPA, November 1982; 430/982-010; pages 74-91) and the Model Monitoring Program Guidance Document (Schiff, K.C., J.S. Brown and S.B. Weisberg, 2001. *Model Monitoring Program for Large Ocean Dischargers in Southern California.* SCCWRP Tech. Rep #357. Southern California Coastal Water Research Project, Westminster, CA. 101 pp.). Data shall be tabulated, summarized, graphed where appropriate, analyzed, interpreted, and generally presented in such a way as to facilitate ready understanding of its significance. Spatial and temporal trends shall be examined and compared. The relationship of physical and chemical parameters shall be evaluated. See also Section VII of this MRP. All receiving water monitoring data shall be submitted in accordance with the data submittal formats developed for the Southern California Bight Regional Monitoring Surveys.

The first assessment report shall be due August 1, 2016, and cover the sampling periods of January-December 2014 and January-December 2015. Subsequent reports shall be due August 1, 2018, and August 1, 2020, to cover sampling periods from January 2016 to December 2017, and January 2018 to December 2019, respectively.

5. The Permittee shall submit to the Regional Water Board, together with the first monitoring report required by this permit, a list of all chemicals and proprietary additives which could affect this waste discharge, including quantities of each. Any subsequent changes in types and/or quantities shall be reported promptly.

6. The Regional Water Board requires the Permittee to file with the Regional Water Board, within 90 days after the effective date of this Order, a technical report on this preventive

(failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. The technical report should:

a. Identify the possible sources of accidental loss, untreated waste bypass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks, and pipes should be considered.

b. Evaluate the effectiveness of present facilities and procedures and state when they become operational.

c. Describe facilities and procedures needed for effective preventive and contingency plans.

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

~~4.~~ 7. The Regional Water Board requires the City to submit a progress report of current and future planning for the Advanced Water Treatment Facility every year by December 1 to this Regional Water Board. The first progress report shall be received by this Regional Water Board by December 1, 2015.

ATTACHMENT F – Fact Sheet

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ATTACHMENT F – FACT SHEET

As described in section I, the Regional Water Board incorporates this Fact Sheet as findings of the Regional Water Board supporting the issuance 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 Permittees 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 Permittee. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to this Permittee.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	4B190106005
Discharger	City of Los Angeles
Name of Facility	Terminal Island Water Reclamation Plant
Facility Address	445 Ferry Street San Pedro, California 90731-7493 Los Angeles County
Facility Contact, Title and Phone	Mark Starr, Plant Manager, (310)-732-4705
Authorized Person to Sign and Submit Reports	Enrique Zaldivar, (213) 485-2210
Mailing Address	445 Ferry Street, San Pedro, California 90731-7493
Billing Address	SAME
Type of Facility	Publicly-Owned Treatment Works
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	Y
Reclamation Requirements	Producer
Facility Permitted Flow	30 million gallons per day
Facility Design Flow	30 million gallons per day
Watershed	Dominguez Channel – Los Angeles/Long Beach Watershed Management Area
Receiving Water	Los Angeles Outer Harbor
Receiving Water Type	Enclosed Bay

A. The City of Los Angeles (hereinafter Permittee) is the owner and operator of the Terminal Island Water Reclamation Plant (hereinafter TIWRP, Plant, or Facility), a Publicly-Owned Treatment Works (POTW).

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

B. The City of Los Angeles discharges wastewater from the TIWRP to the Los Angeles Outer Harbor (Harbor), a water of the United States. Discharge to the Harbor is currently regulated under Order No. R4-2010-0071 which was adopted on May 06, 2010 and expires on April 10,

2015. The terms and conditions of the current Orders have been administratively continued and remain in effect until new Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit are adopted pursuant to this Order. This NPDES permit regulates the discharge of tertiary treated effluent from the Facility, up to 3 mgd of brine waste from the Advanced Water Purification Facility (AWPF), and a mixture of the two, to the Harbor.

C. The Permittee filed a report of waste discharge and submitted an application, dated January 7, 2014, for renewal of its WDRs and NPDES permit. The application was received on January 14, 2014. The application was deemed complete on August 22, 2014 A site visit was conducted on December 17, 2014, to observe operations and collect additional data to develop permit limitations and conditions.

D. **Phase Out.** Discharge to the Harbor is also subject to the State Water Resources Control Board's (State Board's) *Enclosed Bays and Estuaries Policy* established in 1974, which requires the discharges of Publicly-Owned Treatment Works (POTW) to enclosed bays and estuaries to cease at the earliest practicable date. The Harbor has been defined as an enclosed bay[1]. On June 27, 1977, this Regional Water Board issued Order No. 77-113 requiring the City to phase out the TIWRP discharge to the Harbor at the earliest practicable date or demonstrate that the discharge enhances the quality of the receiving water. The City opted for the latter approach but was not successful in demonstrating that the TIWRP effluent enhances the water quality in the Harbor. On November 25, 1985, this Regional Water Board issued Order No. 85-77, requiring the City to cease the TIWRP discharge to the Harbor at the earliest practicable date. Additionally, on October 31, 1994, the Regional Water Board issued Resolution No. 94-009 to approve the proposal by the City to ultimately phase out the discharge of tertiary-treated wastewater effluent from the TIWRP into the Harbor at the earliest practicable date and to implement a Water Recycling Program with the goal of doubling water reuse of TIWRP effluent within six years after the startup of the initial reclamation phase, and achieving total reuse by 2020.

E. **Water Recycling Program.** To implement Regional Water Board Resolution 94-009, the City has been constructing the Harbor Water Recycling Project in phases and currently treats up to 5 mgd of TIWRP's tertiary-treated effluent by microfiltration and reverse osmosis (MF/RO) at the Advanced Water Purification Facility (AWPF) for various uses in the Los Angeles Harbor area. The use of recycled water is regulated under Order No. R4-2003-0134 and Order No. R4-2003-0025, for injection into the Dominguez Gap Seawater Intrusion Barrier and various non-potable uses throughout the harbor area, respectively. The City is currently in the process of expanding the AWPF to treat up to 12 mgd tertiary-treated effluent from the TIWRP and plans to begin operation of the expanded facility in 2017. Once this phase is complete, the City will be able to treat all of the dry weather tertiary-treated effluent from the TIWRP and eliminate discharge to the Harbor with the exception of brine waste and the occasional discharge of tertiary-treated effluent if there are no other feasible alternatives as described in section III.H. of Order R4-2015-0119. The Regional Water Board finds that these exceptions are currently necessary for the proper operation and maintenance of the AWPF, however, the City shall continue to work with the Los Angeles Department of Water and

[1] The receiving water for the TIWRP discharge is a part of the Harbor of the Regional Board designated Dominguez Channel – Los Angeles/Long Beach Watershed Management Area (WMA) and a part of Dominguez Channel Watershed. The Los Angeles Harbor has been defined as an enclosed bay listed in *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan)*.

Power (LADWP) to develop and expand the recycled water portfolio for the treated wastewater from the TIWRP and the AWPF, with the ultimate goal of eliminating the discharge of tertiary-treated effluent to the Los Angeles Harbor completely.

F. Dilution Credits. On May 28, 2004, the Regional Water Board received the City's final report of the Mixing Zone and Dilution Credit Study (Study) evaluating a mixing zone in accordance with the SIP. On September 3, 2004, the State Board partially approved the results of the Study, which is "These dilution ratios appear to be appropriate for establishing an acute mixing zone and dilution credit as defined in the SIP." State Board staff suggested the use of a chronic dilution ratio conservative applied as the unmodified acute dilution ratio, i.e., $D_{chronic} = D_{acute}$. This resulted in a single dilution credit, similar to the minimum initial dilution ratio $D_{minimum}$ found in most ocean discharge permits. The average tertiary-treated effluent discharged into the Harbor fluctuates and ranges between 10 and 20 mgd. The lowest dilution credit of 61 was based on recycling 30 mgd tertiary-treated effluent and approximately 7.8 mgd of brine waste. Several discharge scenarios were included in the study including current and future discharge scenarios but the dilution credit of 61 was chosen for calculating the final effluent limitations specified in Order No. R4-2008-0082 (amending R4-2005-0024), and R4-2010-0071, for the purpose of protecting aquatic life, human health, and receiving water quality. Order No. R4-2008-0082 approved a dilution credit for MBAS, ammonia, copper, lead, mercury, nickel, silver, and Bis(2-ethylhexyl) phthalate. Subsequently, order No R4-2010-0071 assigned a dilution credit for MBAS, ammonia, copper, and the toxicity trigger.

On July 15, 2014, the Regional Water Board requested that the City conduct an update of the original dilution study for the following reasons:

1. The ambient conditions in the Los Angeles Harbor are constantly changing and the most current conditions must be considered; and

2. The brine discharge flow rate expected after the expansion of the AWPF is much less than that accounted for in previous dilution studies. A lower flow rate decreases the momentum the water exerts on the diffuser and the velocity at which the flow exits the pipe, thereby reducing the amount of mixing in the harbor.

A final dilution study update evaluating the mixing zone in accordance with the SIP (see Table 6 of the 2014 TIWRP Dilution Study Update) was received by the Regional Water Board on December 15, 2014. Based on updated information within the Harbor, a dilution ratio of 65:1 was determined for the acute mixing zone. This dilution ratio is greater than the previous dilution ratio of 61:1 and results in less stringent final effluent limitations. Antibacksliding does not apply since the dilution study update constitutes information not available at the time the previous permit was issued (other than revised regulations, guidance, or test methods) and the dilution study justifies the application of less stringent effluent limitations. Regional Water Board staff reviewed the study using the Visual Plumes model, consulted with State Water Board staff, and approved the use of the study and the revised dilution ratio of 65:1. (The Visual Plumes model was developed by USEPA and was approved by the State Water Board for dilution models for effluent discharges.) This dilution ratio of 65:1 has been applied in this Order to calculate the final effluent limitations.

G. Total Cyanide Special Study. A special study was conducted for cyanide to determine if the dilution credit can be applied to the final effluent limitation for this constituent. There were two phases to the total cyanide special study. Prior to Phase 1 of this study, the method detection

limit (MDL) for total cyanide at the City of Los Angeles Environmental Monitoring Division (CLAEMD) was 4 µg/L. The monthly average and daily maximum cyanide effluent limitations in Order No. R4-2005-0024 for the TIWRP were 0.5 µg/L and 1 µg/L, respectively. The interim monthly average limit was 11 µg/L, which expired on March 10, 2010. Since CLAEMD's MDL was higher than their NPDES permit's monthly average limitation of 0.5 µg/L, CLAEMD conducted Phase 1 of the study to lower the MDL and to determine if the Harbor's ambient cyanide concentration levels were less than the permit limitation and the California Toxics Rule (CTR) Criterion Maximum and Criterion Continuous Concentrations of 1 µg/L.

CLAEMD met the objectives of Phase 1 of the study by achieving a MDL of 0.5 µg/L for cyanide and by beginning the collection and testing of the Harbor's ambient water samples to establish background cyanide concentration levels.

In Phase 2 of the study (completed in the third quarter of 2009), CLAEMD collected cyanide samples from twelve sampling sites (Figure E-1 of the Monitoring and Reporting Program) located in the Harbor between May 2008 through April 2009. The cyanide data, which consisted of 144 samples were all non-detect and less than the MDL of 0.5 µg/L except for May 15, 2008, with 0.5 µg/L total cyanide at Station HW64, and June 18, 2008, with 0.7 µg/L total cyanide at Station HW50. The arithmetic mean of total cyanide concentration in the receiving water of the Harbor is 0.5014 µg/L, which is less than the salt water criteria of 1.0 µg/L for cyanide specified in the California Toxic Rules. Therefore, the dilution credit of 61 was used to calculate the cyanide final effluent limitations in Order No. R4-2005-0024, since cyanide's maximum effluent concentration exceeded its salt water criteria of 1.0 µg/L. This final effluent limitation was later removed from the subsequent order (Order No. R4-2010-0071) because there was no reasonable potential for the effluent to exceed the criteria for cyanide. Order No. R4-2015-0119 contains final effluent limitations for cyanide because there was reasonable potential for the effluent to exceed the criteria. The revised dilution ratio of 65:1 based on the 2014 Dilution Study Update (See Section I.F. of this Fact Sheet) was used to calculate this final effluent limitation.

II. FACILITY DESCRIPTION

The Permittee owns and operates the TIWRP, a tertiary wastewater treatment plant located at 445 Ferry Street, San Pedro, California, approximately 20 miles south of downtown Los Angeles. Attachment B shows the location of the Plant. The Facility was originally built in 1935 with a treatment process comprised of preliminary and primary treatment and the effluent was discharged to the Los Angeles Inner Harbor. TIWRP was upgraded to secondary treatment employing an activated sludge process in 1977, and further upgraded to tertiary treatment in 1996. The Outfall Discharge Serial No. 001 located at the Los Angeles Outer Harbor was complete in August 1996. Operation of the tertiary wastewater treatment plant began in January 1997. A new effluent monitoring station, which captures the combined flows of the tertiary-treated effluent and the brine waste discharge from the TIWRP's AWPF to the Harbor via Discharge Point 001 was constructed and completed in July 2008. Attachment C depicts the current schematic of the Plant wastewater flows. Attachment B provides a map of the area around the Facility.

The TIWRP currently receives wastewater from San Pedro, Wilmington, and Harbor City areas. The wastewater is a mixture of domestic, commercial, and industrial wastewater that is pre-treated pursuant to 40 CFR Part 403. The TIWRP has a design capacity of 30 mgd and serves an estimated population of 142,000 people.

The TIWRP has two bypass points: one for primary effluent and the other for secondary effluent. The primary effluent bypass point is operated by a valve and has never been used since it was put in service in 1977. The secondary bypass has been used several times since the filter facility was put into service in January 1997. The secondary effluent can be automatically overflowed to the filtered effluent discharge channel if the filter influent pumps are inoperable or overloaded. The latest unfiltered secondary effluent discharged into the Harbor was on August 26, 2004.

A. Description of Wastewater and Biosolids Treatment and Controls

Treatment at the TIWRP consists of wastewater processing, advanced wastewater treatment processing, and biosolids processing. The process flow diagram of the TIWRP is depicted in Attachment C.

1. Wastewater Processing - consists of preliminary treatment (bar screening and aerated grit removal), primary treatment (primary sedimentation), secondary treatment (secondary clarification and activated sludge biological treatment), tertiary treatment (effluent filtration). Under normal operating conditions, the discharge of the tertiary-treated effluent to the Harbor is not chlorinated.

    a. *Preliminary Treatment* – Removes coarse solids (by bar screening), sand and silt (by grit removal system) from wastewater.

    b. *Primary Sedimentation* – Removes solids from the wastewater by gravity. The heavier solids settle and are scraped out of the primary sedimentation basin. The lighter solids float to the top and are skimmed off. However, some solids remain in suspension.

    d. *Activated Sludge Biological Treatment* – Activated sludge consists of microorganisms that consume non-settleable and dissolved organic contaminants which form a settleable floc.

    c. *Secondary Clarification* – Removes biological floc from the wastewater which then mostly becomes part of the waste sludge. Chemicals such as aluminum sulfate (alum) may be added as part of the treatment process to encourage floc formation and enhance solids removal.

    e. *Tertiary Treatment* – The filtration process is used to remove or reduce suspended or colloidal matter from a liquid stream, by passing the water through a bed of graded granular material. Filters remove the solids that the secondary sedimentation process did not remove, thus, improving the disinfection efficiency and reliability.

2. Advanced Water Purification Facility (AWPF) Processing – includes microfiltration, reverse osmosis, and disinfection.

    a. *Microfiltration* – Tertiary treated wastewater is pretreated with sodium hypochlorite to prevent biofouling and then fed into automatic self-cleaning 500-micron strainers. The wastewater flow is then split into two parallel trains, each containing five parallel Memcor microfiltration units. The microfiltration units are periodically backwashed to clean the membranes and that backwash is sent back to TIWRP's headworks for reprocessing.

b. *Reverse Osmosis (RO)* – Prior to entering the RO process train, the pH of the treated water from the microfiltration units may need to be adjusted with sulfuric acid to protect the RO filters from deterioration. The microfiltration filtrate is then fed into two separate RO process trains. Each RO process train has two stages in series and use thin-filmed membranes.

c. *Disinfection* – A sodium hypochlorite (chlorine) contact basin has been designed to provide a contact time (CT) of 450 mg/L-min with a modal contact time of at least 150 minutes for a flow of 5 mgd RO treated water. The treated water from the RO units is disinfected prior to being injected into the Dominguez Gap Seawater Intrusion Barrier or any other permitted use.

3. Biosolids Processing –

a. Land Application – Sludge may be thickened, anaerobically digested, dewatered, and hauled to either the City's Green Acres Farm located at Kern County for land application or to a contracted site in Arizona for composting and land application at various locations in Arizona and California.

b. Renewable Energy Project - In 2008, the City and GeoEnvironment Technologies started the experimental TIRE project at the Terminal Island Water Reclamation Plant. TIRE is an innovative technology to convert biosolids into energy by deep well injection and geothermal biodegradation. The US EPA permitted the project as an experimental technology. TIRE's permit allows for maximum injection capacity of four hundred wet tons per day of biosolids. Two injection wells and two monitoring wells have been drilled to a depth of 5,200 feet. The biosolids are injected into soft, high porosity, formation sands, using technology optimized for slurry injection, for a period of 5 years. Currently, the City is injecting all of the Plant's biosolids (up to 50 wet tons per day) at the TIRE injection facility. The USEPA permits up to 400 tons of biosolids per day for injection (up to 50 tons from TIWRP and up to 350 tons from the City's Hyperion Treatment Plant).

B. Discharge Points and Receiving Waters

1. Pursuant to Provision 4.c. of Resolution No. 94-009, and to accommodate the Port of Los Angeles' expansion project (2020 Plan) which deepens and widens the main channels of the Los Angeles Harbor, Discharge Serial No. 001 of the TIWRP effluent discharge location during the construction was modified three times and extended to 900 feet beyond the shoreline near Pier 400 and to a depth of 32 feet. The Outfall flow in the old 60-inch pipe was diverted to the modified/extended 72-inch pipe on July 10, 1996. The new discharge point is through an 800-foot, multi-port diffuser consisting of 100, 4-inch ports to improve initial dilution of the discharge.

2. The Los Angeles Outer Harbor is the receiving water for the TIWRP discharge and is part of the Los Angeles/Long Beach Watershed Management Area (WMA) and a part of Dominguez Channel Watershed. The Los Angeles Harbor has been defined as an enclosed bay listed in *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan)*.

3. The Los Angeles Harbor is located in the southern portion of the Los Angeles Basin. Along the northern portion of San Pedro Bay is a natural embayment formed by a westerly extension of the coastline. It contains the Los Angeles Harbor, with the Palos Verdes Hills as the dominant onshore feature. Historically, the area consisted of marshes and mudflats with a large marshy area, Dominguez Slough, to the north, and flow from the Los Angeles River entering where Dominguez Channel now drains.

4. Several locations in the Harbor area, including the Los Angeles and Long Beach Outer Harbor, have been listed as impaired or sites of concern under the Bay Protection and Toxic Cleanup Program (BPTCP) due to benthic community effects, DDT, PCBs (sediments and tissue), PAHs (sediment), sediment toxicity (not recurrent), and metals (zinc in tissue samples; zinc, lead, and copper in sediments). Two areas within the Harbor are considered to be toxic hot spots under the BPTCP: Dominguez Channel/Consolidated Slip, based on sediment concentrations of DDT, PCBs, cadmium, copper, lead, mercury, zinc, dieldrin, chlordane (all exceed sediment quality guidelines), sediment toxicity, and degraded benthic infaunal community; and Cabrillo Pier area, based on sediment concentrations of DDT, PCBs and copper, sediment toxicity and issuance of a human health (fishing) advisory for DDT and PCBs in white croaker, and exceedances of National Academy of Science guidelines for DDT in fish and shellfish. More detailed information of pollutants in the receiving water of the Los Angeles Harbor is available in Section III.d. of this Fact Sheet.

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

Combined brine and effluent flow limitations contained in the existing Order R4-2010-0071 for discharge from Discharge Point 001 (Monitoring Location EFF-001) and representative of monitoring data collected between January 1, 2010 and September 30, 2014 are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data at EFF-001

Parameter	Units	Effluent Limitation (Order No. R4-2010-0071)			Monitoring Data[2] (From 01/01/10 to 09/30/14)		
		Average Monthly	Ave. Weekly	Max. Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge[3,4]	Highest Daily Discharge
Turbidity	NTU	--	--	2[5]	0.87[6]	--	6[6]
Temperature	^{o}F	--	--	100	83[6]	--	84[6]
pH	pH Units	--	--	6.5-8.5	7.5[6]	--	7.9[6]

[2] "<" means a non-detect value, and is represented by the laboratory's MDL

[3] The highest average weekly discharge concentration is reported for constituents that are monitored weekly or at more frequent intervals.

[4] Weekly averages are calculated as a calendar week average.

[5] A daily average of 2 NTU; and 5 NTU more than 5 percent of the time (72 minutes) during any 24 hour period

[6] Monitoring data for this constituent was from January 1, 2013 through December 31, 2013.

Parameter	Units	Effluent Limitation (Order No. R4-2010-0071)			Monitoring Data[2] (From 01/01/10 to 09/30/14)		
		Average Monthly	Ave. Weekly	Max. Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge[3,4]	Highest Daily Discharge
$BOD_5 20^oC$	mg/L	15	30	40	3.4[6]	--	15[6]
Total Suspended Solids	mg/L	15	30	40	2.9[6]	--	9[6]
Settleable Solids	ml/L	0.1	--	0.3	< 0.03[6]	--	< 0.03[6]
Oil and Grease	mg/L	10	--	15	< 3	--	< 3
Residual Chlorine	mg/L	--	--	0.1	< 0.001	--	<0.001
MBAS	mg/L	31	--	--	0.44	--	0.44
CTAS	mg/L	--	--	--	0.93	--	0.93
Dissolved Oxygen	mg/L	--	--	--	8.0	--	8.8
Nitrite-N (as N)	mg/L	--	--	--	0.8	--	0.8
Nitrate + Nitrite as N	mg/L	--	--	--	12	--	12
Ammonia Nitrogen	mg/L	29	--	195	7.17	--	7.17
Organic Nitrogen	mg/L	--	--	--	3.36	--	3.36
Total Nitrogen	mg/L	--	--	--	17.4	--	17.4
Antimony	µg/L	--	--	--	0.76	--	0.76
Arsenic	µg/L	--	--	--	4.59	--	4.59
Beryllium	µg/L	--	--	--	< 0.2	--	< 0.2
Cadmium	µg/L	--	--	--	0.02	--	0.02
Chromium III	µg/L	--	--	--	< 0.26	--	< 0.26
Chromium VI	µg/L	--	--	--	< 0.5	--	<0.5
Copper	µg/L	86	--	220	16.7	--	16.7
Lead	µg/L	--	--	--	2.1	--	2.1
Mercury	µg/L	--	--	--	0.02	--	0.02
Nickel	µg/L	--	--	--	6.45	--	6.45
Selenium	µg/L	--	--	--	27.6	--	27.6
Silver	µg/L	--	--	--	0.14	--	0.14
Thallium	µg/L	--	--	--	1.4	--	1.4
Zinc	µg/L	--	--	--	33.8	--	33.8
Cyanide	µg/L	--	--	--	4	--	4
Asbestos	µg/L	--	--	--	--	--	--
2,3,7,8-TCDD (Dioxin)	pg/L	--	--	--	0.035	--	0.035

Parameter	Units	Effluent Limitation (Order No. R4-2010-0071)			Monitoring Data[2] (From 01/01/10 to 09/30/14)		
		Average Monthly	Ave. Weekly	Max. Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge[3,4]	Highest Daily Discharge
Acrolein	µg/L	--	--	--	< 1.13	--	< 1.13
Acrylonitrile	µg/L	--	--	--	< 0.27	--	< 0.27
Benzene	µg/L	--	--	--	0.13	--	0.13
Bromoform	µg/L	--	--	--	8.33	--	8.33
Carbon Tetrachloride	µg/L	--	--	--	< 0.27	--	< 0.27
Chlorobenzene	µg/L	--	--	--	< 0.15	--	< 0.15
Dibromochloromethane	µg/L	--	--	--	4.62	--	4.62
Chloroethane	µg/L	--	--	--	< 0.79	--	< 0.79
2-chloroethyl vinyl ether	µg/L	--	--	--	< 0.63	--	< 0.63
Chloroform	µg/L	--	--	--	< 0.13	--	< 0.13
Dichlorobromomethane	µg/L	--	--	--	< 0.12	--	< 0.12
1,1-dichloroethane	µg/L	--	--	--	< 0.16	--	< 0.16
1,2-dichloroethane	µg/L	--	--	--	< 0.08	--	< 0.08
1,1-dichloroethylene	µg/L	--	--	--	< 0.2	--	< 0.2
1,2-dichloropropane	µg/L	--	--	--	< 0.12	--	< 0.12
1,3-dichloropropylene	µg/L	--	--	--	< 0.15	--	< 0.15
Ethylbenzene	µg/L	--	--	--	0.2	--	0.2
Methyl bromide	µg/L	--	--	--	< 0.51	--	< 0.51
Methyl chloride	µg/L	--	--	--	0.59	--	0.59
Methylene chloride	µg/L	--	--	--	0.8	--	0.8
1,1,2,2-tetrachloroethane	µg/L	--	--	--	< 0.14	--	< 0.14
Tetrachloroethylene	µg/L	--	--	--	0.71	--	0.71
Toluene	µg/L	--	--	--	2.21	--	2.21
Trans 1,2-Dichloroethylene	µg/L	--	--	--	< 0.2	--	< 0.2
1,1,1-Trichloroethane	µg/L	--	--	--	< 0.2	--	< 0.2
1,1,2-Trichloroethane	µg/L	--	--	--	< 0.1	--	< 0.1
Trichloroethylene	µg/L	--	--	--	0.18	--	0.18
Vinyl Chloride	µg/L	--	--	--	< 0.26	--	< 0.26
2-chlorophenol	µg/L	--	--	--	5.28	--	5.28
2,4-dichlorophenol	µg/L	--	--	--	< 0.23	--	< 0.23

Parameter	Units	Effluent Limitation (Order No. R4-2010-0071)			Monitoring Data[2] (From 01/01/10 to 09/30/14)		
		Average Monthly	Ave. Weekly	Max. Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge[3,4]	Highest Daily Discharge
2,4-dimethylphenol	µg/L	--	--	--	12.6	--	12.6
2-methyl-4,6-Dinitrophenol	µg/L	--	--	--	< 1.67	--	< 1.67
2,4-dinitrophenol	µg/L	--	--	--	< 2.82	--	< 2.82
2-nitrophenol	µg/L	--	--	--	< 0.45	--	< 0.45
4-nitrophenol	µg/L	--	--	--	< 1.72	--	< 1.72
3-Methyl-4-Chlorophenol (P-chloro-m-resol)	µg/L	--	--	--	< 0.31	--	< 0.31
Pentachlorophenol	µg/L	--	--	--	< 1.21	--	< 1.21
Phenol	µg/L	--	--	--	10.4	--	10.4
2,4,6-trichlorophenol	µg/L	--	--	--	1.8	--	1.8
Acenaphthene	µg/L	--	--	--	< 0.13	--	< 0.13
Acenaphthylene	µg/L	--	--	--	< 1.67	--	< 1.67
Anthracene	µg/L	--	--	--	< 0.11	--	< 0.11
Benzidine	µg/L	--	--	--	< 1.81	--	< 1.81
Benzo(a)Anthracene	µg/L	--	--	--	< 0.14	--	< 0.14
Benzo(a)Pyrene	µg/L	--	--	--	< 0.13	--	< 0.13
Benzo(b)Fluoranthene	µg/L	--	--	--	< 0.14	--	< 0.14
Benzo(ghi)Perylene	µg/L	--	--	--	< 0.03	--	< 0.03
Benzo(k)Fluoranthene	µg/L	--	--	--	< 0.11	--	< 0.11
Bis(2-Chloroethoxy) methane	µg/L	--	--	--	< 0.16	--	< 0.16
Bis(2-Chloroethyl)Ether	µg/L	--	--	--	< 0.18	--	< 0.18
Bis(2-Chloroisopropyl) Ether	µg/L	--	--	--	< 0.33	--	< 0.33
Bis(2-Ethylhexyl)Phthalate	µg/L	--	--	--	1.19	--	1.19
4-Bromophenyl Phenyl Ether	µg/L	--	--	--	< 0.2	--	< 0.2
Butylbenzyl Phthalate	µg/L	--	--	--	< 0.74	--	< 0.74
2-Chloronaphthalene	µg/L	--	--	--	< 0.16	--	< 0.16
4-Chlorophenyl Phenyl Ether	µg/L	--	--	--	< 0.19	--	< 0.19
Chrysene	µg/L	--	--	--	< 0.12	--	< 0.12
Dibenzo(a,h)Anthracene	µg/L	--	--	--	< 0.05	--	< 0.05

Parameter	Units	Effluent Limitation (Order No. R4-2010-0071)			Monitoring Data[2] (From 01/01/10 to 09/30/14)		
		Average Monthly	Ave. Weekly	Max. Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge[3,4]	Highest Daily Discharge
1,2-Dichlorobenzene	µg/L	--	--	--	0.32	--	0.32
1,3-Dichlorobenzene	µg/L	--	--	--	< 0.35	--	< 0.35
1,4-Dichlorobenzene	µg/L	--	--	--	< 0.35	--	<0.35
3-3'-Dichlorobenzidine	µg/L	--	--	--	< 2.78	--	< 2.78
Diethyl Phthalate	µg/L	--	--	--	< 0.62	--	< 0.62
Dimethyl Phthalate	µg/L	--	--	--	< 0.64	--	< 0.64
Di-n-Butyl Phthalate	µg/L	--	--	--	0.82	--	0.82
2-4-Dinitrotoluene	µg/L	--	--	--	< 0.21	--	< 0.21
2-6-Dinitrotoluene	µg/L	--	--	--	< 0.19	--	< 0.19
Di-n-Octyl Phthalate	µg/L	--	--	--	< 0.82	--	< 0.82
1,2-Diphenylhydrazine	µg/L	--	--	--	< 0.16	--	< 0.16
Fluoranthene	µg/L	--	--	--	< 0.04	--	< 0.04
Fluorene	µg/L	--	--	--	0.24	--	0.24
Hexachlorobenzene	µg/L	--	--	--	< 0.17	--	< 0.17
Hexachlorobutadiene	µg/L	--	--	--	< 0.57	--	< 0.57
Hexachlorocyclopentadiene	µg/L	--	--	--	< 3.83	--	< 3.83
Hexachloroethane	µg/L	--	--	--	< 0.27	--	< 0.27
Indeno(1,2,3-cd)Pyrene	µg/L	--	--	--	< 0.04	--	< 0.04
Isophorone	µg/L	--	--	--	0.19	--	0.19
Naphthalene	µg/L	--	--	--	< 0.13	--	< 0.13
Nitrobenzene	µg/L	--	--	--	< 0.19	--	< 0.19
N-Nitrosodimethylamine	µg/L	--	--	--	0.51	--	0.51
N-Nitrosodi-n-Propylamine	µg/L	--	--	--	< 0.16	--	< 0.16
N-Nitrosodiphenylamine	µg/L	--	--	--	< 0.24	--	< 0.24
Phenanthrene	µg/L	--	--	--	0.44	--	0.44
Pyrene	µg/L	--	--	--	0.04	--	0.04
1,2,4-Trichlorobenzene	µg/L	--	--	--	< 0.42	--	< 0.42
Aldrin	µg/L	--	--	--	< 0.004	--	< 0.004
Alpha-BHC	µg/L	--	--	--	< 0.004	--	< 0.004
Beta-BHC	µg/L	--	--	--	< 0.003	--	< 0.003

Parameter	Units	Effluent Limitation (Order No. R4-2010-0071)			Monitoring Data[2] (From 01/01/10 to 09/30/14)		
		Average Monthly	Ave. Weekly	Max. Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge[3,4]	Highest Daily Discharge
Gamma-BHC (Lindane)	µg/L	--	--	--	< 0.005	--	< 0.005
delta-BHC	µg/L	--	--	--	< 0.004	--	< 0.004
Chlordane	µg/L	--	--	--	< 0.07	--	< 0.07
4,4'-DDT	µg/L	--	--	--	< 0.007	--	< 0.007
4,4'-DDE	µg/L	--	--	--	< 0.004	--	< 0.004
4,4'-DDD	µg/L	--	--	--	< 0.004	--	< 0.004
Dieldrin	µg/L	--	--	--	< 0.005	--	< 0.005
Alpha-Endosulfan	µg/L	--	--	--	< 0.008	--	< 0.008
Beta-Endosulfan	µg/L	--	--	--	< 0.007	--	< 0.007
Endosulfan Sulfate	µg/L	--	--	--	< 0.008	--	< 0.008
Endrin	µg/L	--	--	--	< 0.007	--	< 0.007
Endrin Aldehyde	µg/L	--	--	--	< 0.004	--	< 0.004
Heptachlor	µg/L	--	--	--	< 0.008	--	< 0.008
Heptachlor Epoxide	µg/L	--	--	--	< 0.006	--	< 0.006
PCB 1016	µg/L	--	--	--	< 0.066	--	< 0.066
PCB 1221	µg/L	--	--	--	< 0.116	--	< 0.116
PCB 1232	µg/L	--	--	--	< 0.06	--	< 0.06
PCB 1242	µg/L	--	--	--	< 0.075	--	< 0.075
PCB 1248	µg/L	--	--	--	< 0.07	--	< 0.07
PCB 1254	µg/L	--	--	--	< 0.068	--	< 0.068
PCB 1260	µg/L	--	--	--	< 0.077	--	< 0.077
Toxaphene	µg/L	--	--	--	< 0.085	--	< 0.085

D. Compliance Summary

The following table (Table F-3) lists the Terminal Island Water Reclamation Plant's violations of subdivisions (h) and (i) of California Water Code section 13385, from January 1, 2010 to December 31, 2014. For additional information about the alleged violations listed in the table, please refer to the SWRCB Public Reports webpage http://www.waterboards.ca.gov/water_issues/programs/ciwqs/publicreports.shtml; choose the "MMP Report" link located under the "Enforcement Reports" category. Once in the Public Reports search page, enter the search criteria that correspond to the Terminal Island Water Reclamation Plant to access the list of violations.

Table F-3. List of Violations

Violation ID	Occurrence Date	MMP Action	Violation Description
893513	09/21/10	Pending	Order Conditions
893514	09/21/10	Pending	Order Conditions
914076	10/24/11	Pending	Deficient Reporting
914075	10/30/11	Pending	Deficient Reporting
914074	10/30/11	Pending	Deficient Reporting
939218	09/14/12	Pending	Turbidity Exceedance
939219	09/14/12	Pending	Turbidity Exceedance
950427	04/25/13	Taken	Turbidity Exceedance
950548	04/25/13	Pending	Deficient Monitoring
950428	04/25/13	Pending	Turbidity Exceedance
950550	05/20/13	Pending	Deficient Reporting
970069	05/16/14	Pending	Late Report
978062	07/25/14	Pending	Deficient Reporting
980178	08/20/14	Pending	Deficient Reporting
989302	08/21/14	Pending	Late Report

E. Planned Changes

As part of the City of Los Angeles' plan to phase out the discharge of final effluent to the Los Angeles Harbor by 2020 (with minor exceptions), the Advanced Water Purification Facility (AWPF) is undergoing an expansion to increase capacity from 5 mgd product water to about 12 mgd. The recycled water from the AWPF may be injected into the Dominguez Gap Seawater Intrusion Barrier to eliminate the need to import potable water for the project. The recycled water generated at the expanded AWPF may also be used to improve the ecosystem of Machado Lake. The expansion project also includes construction of a new advanced oxidation process for disinfection of the recycled water before it is reused. Once the project is complete, a brine-dominated effluent may be discharged to the harbor. The expansion project is scheduled to be completed in 2017.

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 serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (CWC; commencing with section 13260). This Order is also issued pursuant to section

402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the United States Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the CWC (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters.

B. California Environmental Quality Act (CEQA)

Under CWC section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code.

C. State and Federal Laws, Regulations, Policies, and Plans

1. **Water Quality Control Plan.** The Regional Water Board adopted a Water Quality Control Plan for the Los Angeles Region (Basin Plan) on June 4, 1994 that designates beneficial uses, establishes water quality objectives (WQOs), and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. In addition, the Basin Plan implements State Water Board Resolution 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. On May 26, 2000, the USEPA approved the revised Basin Plan except for the implementation plan for potential MUN-designated water bodies. On August 22, 2000, the City of Los Angeles, City of Burbank, City of Simi Valley, and the County Sanitation Districts of Los Angeles County challenged USEPA's water quality standards action in the U.S. District Court. On December 18, 2001, the court issued an order remanding the matter to USEPA to take further action on the 1994 Basin Plan consistent with the court's decision. On February 15, 2002, USEPA revised its decision and approved the 1994 Basin Plan in whole. In its February 15, 2002 letter, USEPA stated:

   > EPA bases its approval on the court's finding that the Regional Water Board's identification of waters with an asterisk ("*") in conjunction with the implementation language at page 2-4 of the 1994 Basin Plan, was intended "to only conditionally designate and not finally designate as MUN those water bodies identified by an ('*') for the MUN use in Table 2-1 of the Basin Plan, without further action." Court Order at p. 4. Thus, the waters identified with an ("*") in Table 2-1 do not have MUN as a designated use until such time as the State undertakes additional study and modifies its Basin Plan. Because this conditional use designation has no legal effect, it does not constitute a new water quality standard subject to EPA review under section 303(c)(3) of the Clean Water Act ("CWA"). 33 U.S.C. § 1313(c)(3).

   USEPA's decision has no effect on the MUN designations of groundwater.

   Beneficial uses applicable to the receiving water are as follows:

Table F-4. Basin Plan Beneficial Uses

Hydrologic Unit Code (HUC)	Receiving Water Name	Beneficial Use(s)
180701040602 (Formerly Hydro. Unit No. 405.12)	Outer Harbor	Existing: Navigation (NAV); water contact recreation (REC-1) and non- contact recreation (REC-2); commercial (COMM); marine habitat (MAR); threatened or endangered species (RARE) Potential: shellfish harvesting (SHELL)
180701040602 (Formerly Hydro. Unit No. 405.12)	Marinas	Existing: Industry water supply (IND); NAV; REC-1; REC-2; COMM; MAR; RARE Potential: SHELL
180701040602 (Formerly Hydro. Unit No. 405.12)	Public Beach Area	Existing: NAV; REC-1; REC-2; COMM; MAR; wildlife habitat (WILD); RARE; SHELL Potential: Spawning, reproduction, and/or early development (SPWN)
180701040602 (Formerly Hydro. Unit No. 405.12)	All Other Inner Areas	Existing: IND; NAV, REC-2, COMM; MAR; RARE[7] Potential: REC-1; SHELL
180701040302 (Formerly Hydro. Unit No. 405.12)	Dominguez Channel Estuary[8,9] (Hydro. Unit No. 405.12)	Existing: REC-1; REC-2; COMM; estuary habitat (EST); MAR; WILD; RARE[11]`; migration of aquatic organisms (MIGR)[10]; SPWN[10] Potential: NAV
180701040404 (Formerly Hydro. Unit No. 405.12)	Los Angeles River Estuary[8,9] (Hydro. Unit No. 405.12)	Existing: IND; NAV; REC-1; REC-2; COMM; EST; MAR; WILD; RARE[8]; MIGR[10]; SPWN[10]; wetland habitat (WET) Potential: SHELL

2. **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 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 were applicable in the

[7] One or more rare species utilizes all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting.

[8] Coastal water bodies are also listed in Inland Surface Waters Table (2-1) or in Wetlands Table (2-4) of the Basin Plan.

[9] These areas are engineered channels. All references to Tidal Prisms in Regional Water Board documents are functionally equivalent to estuaries.

[10] Aquatic organisms utilize all bays, estuaries, lagoons and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas, which are heavily influenced by freshwater inputs.

state. The CTR was amended on February 13, 2001. These rules contain federal water quality criteria for priority pollutants.

3. **State Implementation Policy (SIP).** 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 become effective for CWA purposes (40 CFR § 131.21, 65 Federal Register 24641 (April 27, 2000)). 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. **Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based effluent limitations (TBELs) and water quality-based effluent limitations (WQBELs) for individual pollutants. The TBELs consist of restrictions on BOD, TSS, oil and grease, settleable solids, turbidity, pH, and percent removal of BOD and TSS. Restrictions on BOD, TSS, oil and grease, settleable solids, turbidity, and pH are discussed in section IV.B.2 of the Fact Sheet. 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 that are carried over from the previous permit.

   WQBELs have been scientifically derived to implement WQOs that protect beneficial uses. Both the beneficial uses and the WQOs have been approved pursuant to federal law and are the applicable federal water quality standards. All beneficial uses and WQOs contained in the Basin Plan and the Ocean 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 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 requirements of the CWA.

6. **Antidegradation Policy.** Federal regulation 40 CFR § 131.12 requires that state water quality standards include an antidegradation policy consistent with the federal antidegradation policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16 ("Statement of Policy with Respect to Maintaining the Quality of the Waters of the State"). Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. 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 discharges permitted in this Order are consistent with the antidegradation provisions of 40 CFR § 131.12 and State Water Board Resolution 68-16.

7. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 CFR § 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. Some effluent limitations in this Order are less stringent than those in the previous Order. As discussed in detail in the fact Sheet this relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

8. **Endangered Species Act (ESA) Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California ESA (Fish and Game Code, sections 2050 to 2097) or the Federal ESA (16 USC sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Permittee is responsible for meeting all requirements of the applicable ESA.

9. **Water Rights.** Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a surface or subterranean stream, the Permittee must file a petition with the State Water Board (State Water Board), Division of Water Rights, and receive approval for such a change. The State Water Board retains the jurisdictional authority to enforce such requirements under CWC section 1211.

10. **Domestic Water Quality.** It is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This order promotes that policy by requiring discharges to meet maximum contaminant levels developed to protect human health and ensure that water is safe for domestic use.

11. **Water Recycling -** In accordance with statewide policies concerning water reclamation[11], this Regional Water Board strongly encourages, wherever practical, water recycling, water conservation, and use of storm water and dry-weather urban runoff. The Permittee shall investigate the feasibility of recycling, conservation, and/or alternative disposal methods of wastewater (such as groundwater injection), and/or use of storm water and dry-weather urban runoff.

12. **Monitoring and Reporting.** 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 Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and state requirements. This MRP is provided in Attachment E.

[11] See, e.g., CWC sections 13000 and 13550-13557, State Water Board Resolution No. 77-1 (Policy with Respect to Water Reclamation in California), and State Water Board Resolution No. 2009-0011 (Recycled Water Policy).

13. **Sewage Sludge/Biosolids Requirements.** Section 405 of the CWA and implementing regulations at 40 CFR part 503 require that producers of sewage sludge/biosolids meet certain reporting, handling, and use or disposal requirements. The state has not been delegated the authority to implement this program; therefore, USEPA is the implementing agency. This Order contains sewage sludge/biosolids requirements pursuant to 40 CFR part 503 that are applicable to the Permittee.

14. **Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with section 122.41 , and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Permittee must comply with all Standard Provisions and with those additional conditions that are applicable under section 122.42. The Regional Water Board has also included in this order Special Provisions applicable to the Permittee. A rationale for the Special Provisions contained in this Order is provided in the attached Fact Sheet.

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

The State Water Board proposed the California 2008-2010 Integrated Report from a compilation of the adopted Regional Water Boards' Integrated Reports containing 303(d) List of Impaired Waters and 305(b) Reports following recommendations from the Regional Water Boards and information solicited from the public and other interested parties. The Regional Water Boards' Integrated Reports were used to revise their 2006 303(d) List. On August 4, 2010, the State Water Board adopted the California 2008-2010 Integrated Report. On November 12, 2010, the USEPA approved California 2008-2010 Integrated Report Section 303(d) List of Impaired Waters requiring Total Maximum Daily Loads (TMDL) for the Los Angeles Region. The 303(d) List can be viewed at the following link:

http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml .

The Los Angeles Harbor and nearby locations are on the 303(d) list. The following pollutants/ stressors, from point and non-point sources, were identified as impacting the receiving waters:

1. Los Angeles Harbor – Cabrillo Marina, Calwater #40512000, USGS HUC #18070104

   Nonpoint Source: benzo(a)pyrene

   Source Unknown: DDT and PCBs

2. Los Angeles Harbor – Consolidated Slip, Calwater #40512000, USGS HUC #18070104

   Nonpoint Source – benthic community effects, cadmium (sediment), chlordane (tissue and sediment), chromium (sediment), copper (sediment), DDT (tissue, sediment, and fish consumption advisory), dieldrin, lead (sediment), mercury (sediment), PCBs (tissue, sediment, and fish consumption advisory), sediment toxicity, toxaphene (tissue), and zinc (sediment)

   Source Unknown – 2-methylnaphthalene, benzo(a)pyrene, benzo(a)anthracene, chrysene (C1-C4), phenanthrene, and pyrene

3. Los Angeles Harbor – Fish Harbor, Calwater #40518000, USGS HUC #18070104

Nonpoint Source – DDT and PCBs

Source Unknown – benzo(a)pyrene, (PAHs), benzo(a)anthracene, chlordane, chrysene (C1-C4), copper, dibenzo(a,h)anthracene, lead, mercury, phenanthrene, pyrene, sediment toxicity, and zinc

4. Los Angeles Harbor – Inner Cabrillo Beach Area, Calwater #40512000, USGS HUC #18070104

   Nonpoint Source – DDT (fish consumption advisory) and PCBs (fish consumption advisory)

   Source Unknown – indicator bacteria

5. Los Angeles River Estuary – Queensway Bay, Calwater #40512000, USGS HUC #18070104

   Nonpoint Source – chlordane (sediment), DDT (sediment), PCBs (sediment), and trash

   Source Unknown – sediment toxicity

6. Los Angeles/Long Beach Outer Harbor – inside breakwater, Calwater #40512000, USGS HUC #18070104

   Nonpoint Source – DDT and PCBs

   Source Unknown – sediment toxicity

7. Los Angeles/Long Beach Inner Harbor, Calwater #40518000, USGS HUC #18070104

   Nonpoint/Point Source – beach closures, benthic community effects, chrysene (C1-C4), benzo(a)pyrene, DDT, PCBs, and sediment toxicity

   Source Unknown – copper and zinc

8. Dominguez Channel Estuary – Unlined Portion below Vermont Ave, Calwater #40512000, USGS HUC #18070104

   Nonpoint/Point Source – ammonia, benthic community effects, chlordane (tissue), coliform bacteria, DDT (tissue and sediment), dieldrin (tissue), lead (tissue), and zinc (sediment)

   Nonpoint Source – sediment toxicity

   Source Unknown – benzo(a)pyrene, benzo(a)anthracene, chrysene (C1-C4), PCBs, phenanthrene, and pyrene

E. Other Plans, Polices and Regulations

1. **Sources of Drinking Water Policy.** On May 19, 1988, the State Water Board adopted Resolution No. 88-63, Sources of Drinking Water (SODW) Policy, which established a

policy that all surface and ground waters, with limited exemptions, are suitable or potentially suitable for municipal and domestic supply. To be consistent with State Water Board's SODW Policy, on March 27, 1989, the Regional Water Board adopted Resolution No. 89-03, Incorporation of Sources of Drinking Water Policy into the Water Quality Control Plans (Basin Plans) – Santa Clara River Basin (4A)/ Los Angeles River Basin (4B).

Consistent with Regional Water Board Resolution No. 89-03 and State Water Board Resolution No. 88-63, in 1994 the Regional Water Board conditionally designated all inland surface waters in Table 2-1 of the 1994 Basin Plan as existing, intermittent, or potential for Municipal and Domestic Supply (MUN). However, the conditional designation in the 1994 Basin Plan included the following implementation provision: "no new effluent limitations will be placed in Waste Discharge Requirements as a result of these [potential MUN designations made pursuant to the SODW policy and the Regional Water Board's enabling resolution] until the Regional Water Board adopts [a special Basin Plan Amendment that incorporates a detailed review of the waters in the Region that should be exempted from the potential MUN designations arising from SODW policy and the Regional Water Board's enabling resolution]." On February 15, 2002, the USEPA clarified its partial approval (May 26, 2000) of the 1994 Basin Plan amendments and acknowledged that the conditional designations do not currently have a legal effect, do not reflect new water quality standards subject to USEPA review, and do not support new effluent limitations based on the conditional designations stemming from the SODW Policy until a subsequent review by the Regional Water Board finalizes the designations for these waters. This permit is designed to be consistent with the existing Basin Plan.

2. **Title 22 of the California Code of Regulations (CCR Title 22).** The State Water Resources Control Board, Division of Drinking Water, established primary and secondary maximum contaminant levels (MCLs) for inorganic, organic, and radioactive contaminants in drinking water. These MCLs are codified in Title 22. The Basin Plan (Chapter 3) incorporates Title 22 primary MCLs by reference. This incorporation by reference is prospective, including future changes to the incorporated provisions as the changes take effect. Title 22 primary MCLs have been used as a basis for effluent limitations in WDRs and NPDES permits to protect groundwater recharge beneficial use when that receiving groundwater is designated as MUN. Also, the Basin Plan specifies that "Ground waters shall not contain taste or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses."

3. **Secondary Treatment Regulations**. 40 CFR part 133 establishes the minimum levels of effluent quality to be achieved by secondary treatment. These limitations, established by USEPA, are incorporated into this Order, except where more stringent limitations are required by other applicable plans, policies, or regulations or to prevent backsliding.

4. **Storm Water**. CWA section 402(p), as amended by the Water Quality Act of 1987, requires NPDES permits for storm water discharges. Pursuant to this requirement, in 1990, USEPA promulgated 40 CFR § 122.26 that established requirements for storm water discharges under an NPDES program. To facilitate compliance with federal regulations, on November 1991, the State Water Board issued a statewide general permit, *General NPDES Permit No. CAS000001 and Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities.* This permit was amended in September 1992 and reissued on April 17, 1997 in State Water Board Order No. 97-03-DWQ to regulate storm water discharges associated with industrial activity.

General NPDES permit No. CAS000001 is applicable to storm water discharges from the TIWRP's premises. The City collects storm water runoff at the TIWRP and directs it to a lift station where it is pumped to the facility headworks for treatment. On July 22, 1993, the City filed a Notice of Intent to comply with the requirements of the general permit. The City developed and currently implements a Storm Water Pollution Prevention Plan (SWPPP), to comply with the State Board's Order No. 97-03-DWQ.

5. **Sanitary Sewer Overflows (SSOs).** The CWA prohibits the discharge of pollutants from point sources to surface waters of the United States unless authorized under an NPDES permit. (33 United States Code (USC) sections 1311 and 1342). The State Water Board adopted General WDRs for Sanitary Sewer Systems, (Water Quality Order No. 2006-0003-DWQ; SSO WDR) on May 2, 2006, to provide a consistent, statewide regulatory approach to address SSOs. The SSO WDR requires public agencies that own or operate sanitary sewer systems to apply for coverage under the SSO WDR, develop and implement sewer system management plans, and report all SSOs to the State Water Board's online SSO database. Regardless of the coverage obtained under the SSO WDR, the Permittee's collection system is part of the POTW that is subject to this NPDES permit. As such, pursuant to federal regulations, the Permittee must properly operate and maintain its collection system (40 CFR § 122.41 (e)), report any non-compliance (40 CFR § 122.41(1)(6) and (7)), and mitigate any discharge from the collection system in violation of this NPDES permit (40 CFR § 122.41(d)).

   The requirements contained in this Order sections VI.C.3.b (Spill Cleanup Contingency Plan section), VI.C.4 (Construction, Operation and Maintenance Specifications section), and VI.C.6 (Spill Reporting Requirements section) are intended to be consistent with the requirements of the SSO WDR. The Regional Water Board recognizes that there may be some overlap between these NPDES permit provisions and SSO WDR requirements, related to the collection systems. The requirements of the SSO WDR are considered the minimum thresholds (see Finding 11 of State Water Board Order No. 2006-0003-DWQ). To encourage efficiency, the Regional Water Board will accept the documentation prepared by the Permittees under the SSO WDR for compliance purposes as satisfying the requirements in sections VI.C.3.b, VI.C.4, and VI.C.6, provided the more stringent provisions contained in this NPDES permit are also addressed. Pursuant to SSO WDR, section D, provision 2(iii) and (iv), the provisions of this NPDES permit supersede the SSO WDR, for all purposes, including enforcement, to the extent the requirements may be deemed duplicative.

6. **Compliance Schedules and Interim Requirements.** Section 2.1 of the SIP provides that, based on the Permittee's request and demonstration that it is infeasible for an existing discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective.

7. **Watershed Management.** This Regional Water Board has been implementing a Watershed Management Approach (WMA) to address water quality protection in the Los Angeles Region, as detailed in the Watershed management initiative (WMI). The WMI is

designed to integrate various surface and ground water regulatory programs while promoting cooperative, collaborative efforts within a watershed. It is also designed to focus limited resources on key issues and use sound science. Information about watersheds in the region can be obtained at the Regional after Board's website at http://www.waterboards.ca.gov/losangeles/water_issues/programs/regional_program/watershed/index.shtml. The WMA emphasizes cooperative relationships between regulatory agencies, the regulated community, environmental groups, and other stakeholders in the watershed to achieve the greatest environmental improvements with the resources available.

The Regional Water Board has prepared and periodically updates its Watershed Management Initiative Chapter and the latest version was updated December 2007. This document contains a summary of the region's approach to watershed management. It addresses each watershed and the associated water quality problems and issues. It describes the background and history of each watershed, current and future activities, and addresses TMDL development. The information can be accessed on our website: http://www.waterboards.ca.gov/losangeles.

8. **Relevant TMDLs –** Section 303(d) of the CWA requires states to identify water bodies that do not meet water quality standards and then to establish TMDLs for each water body for each pollutant of concern. TMDLs identify the maximum amount of pollutants that can be discharged to water bodies without causing violations of water quality standards.

   a. **Los Angeles Harbor Bacteria TMDL**. On July 01, 2004, the Regional Water Board adopted resolution 2004-011, *Amendment to the Water Quality Control Plan – Los Angeles Region to Incorporate the Los Angeles Harbor Bacteria TMDL (Inner Cabrillo Beach and Main Ship Channel)*. This resolution was approved by the State Board on October 21, 2004, and the USEPA on March 01, 2005. This TMDL became effective on March 10, 2005.

      On June 07, 2012, the Regional Water Board adopted resolution R12-007, *Amendment to the Water Quality Control Plan – Los Angeles Region to Revise the Los Angeles Harbor Bacteria TMDL (Inner Cabrillo Beach and Main Ship Channel)*. This resolution was approved by the State Board on March 19, 2013, and the USEPA on July 02, 2014. This TMDL became effective on July 02, 2014.

   b. **Los Angeles Harbor Toxics TMDL**. On May 05, 2011, the Regional Water Board adopted resolution R11-008, *Amendment to the Water Quality Control Plan –Los Angeles Region to Incorporate the Total Maximum Daily Load for Toxic Pollutants in Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters*. This resolution was approved by the State Board on February 07, 2012, and the USEPA on March 23, 2012. This TMDL became effective on March 23, 2012.

9. **Sediment Quality Objectives (SQO)** – On September 16, 2008, the State Water Board adopted *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality Objectives (SQO)*, under the State Water Board resolution No. 2008-0070. The California Office of Administrative Law approved the rulemaking file and regulatory action on January 05, 2009. The USEPA approved the SQO on August 25, 2009. The SQO provides narrative sediment quality objectives protecting benthic communities from direct exposure to pollutants in sediments and minimizing human health risk as a result of contaminants in sediments. The SQO also includes a description of the applicable

beneficial uses and a description of how the narrative objectives shall be applied to existing water quality protection plans.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source Permittees to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the 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 § 122.44(a) requires that permits include applicable TBELs and standards; and 40 CFR § 122.44(d) requires that permits include WQBELs to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

The variety of potential pollutants found in the Facility discharges presents a potential for aggregate toxic effects to occur. Whole Effluent Toxicity (WET) is an indicator of the combined effect of pollutants contained in the discharge. Chronic and acute toxicity are a concern for the protection and evaluation of narrative Basin Plan Objectives.

A. Discharge Prohibitions

Effluent and receiving water limitations in this Board Order are based on the CWA, Basin Plan, State Water Board's plans and policies, USEPA guidance and regulations, and best practicable waste treatment technology. This order authorizes the discharge of tertiary-treated wastewater and brine from Discharge Point 001 only. It does not authorize any other types of discharges.

B. Technology-Based Effluent Limitations (TBELs)

1. Scope and Authority

Technology-based effluent limits require a minimum level of treatment for industrial/municipal point sources based on currently available treatment technologies while allowing the Permittee to use any available control techniques to meet the effluent limits. The 1972 CWA required POTWs to meet performance requirements based on available wastewater treatment technology. Section 301 of the CWA established a required performance level--referred to as "secondary treatment" --that all POTWs were required to meet by July 1, 1977. More specifically, section 301(b)(1)(B) of the CWA required that USEPA develop secondary treatment standards for POTWs as defined in section 304(d)(1). Based on this statutory requirement, USEPA developed national secondary treatment regulations which are specified in 40 CFR part 133. These technology- based regulations apply to all POTWs and identify the minimum level of effluent quality to be attained by secondary treatment in terms of $BOD_5$20°C, TSS, and pH.

2. Applicable Technology-Based Effluent Limitations (TBELs)

This Facility is subject to the technology-based regulations for the minimum level of effluent quality attainable by secondary treatment in terms of $BOD_5$20°C, TSS, and pH. However, all technology-based effluent limitations have been carried over from the subsequent order (Order R4-2010-0071), to prevent backsliding. Further, mass-based effluent limitations are based on a design flow rate of 30 mgd. The following Table summarizes the TBELs applicable to the Facility:

Table F-5. Summary of TBELs

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
$BOD_5$20°C	mg/L	15	30	40	--	--
	lbs/day[12]	3,800	7,500	10,000	--	--
TSS	mg/L	15	30	40	--	--
	lbs/day[14]	3,800	7,500	10,000	--	--
pH	standard units	--	--	--	6.5	8.5
Removal Efficiency for BOD and TSS	%	85	--	--	--	--

However, this Plant is also subject to technology-based effluent limitations contained in similar NPDES permits, for similar plants/facilities, based on the treatment level achievable by tertiary-treated wastewater treatment systems. These effluent limitations are consistent with the State Water Board precedential decision, State Water Board Order No. WQ-2004-0010 for the City of Woodland.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

CWA section 301(b) and 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. This Order contains requirements, expressed as technology equivalence requirements that are necessary to achieve water quality standards. The Regional Water Board has considered the factors listed in CWC section 13241 in establishing these requirements. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements or other provisions, is discussed starting from section IV.C.2.

40 CFR § 122.44(d)(1)(i) requires 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. 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 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 section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable WQOs and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

[12] The mass emission rates are based on the plant design flow rate of 30 mgd, and are calculated as follows: Flow (mgd) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day.

2. **Applicable Beneficial Uses and Water Quality Criteria and Objectives**

a. The Basin Plan establishes the beneficial uses for surface water bodies in the Los Angeles region. The beneficial uses of the Los Angeles/Long Beach Harbor affected by the discharge have been described previously in this Fact Sheet.

b. The Basin Plan also specifies narrative and numeric WQOs applicable to surface water as shown in the following discussions.

i. **$BOD_5$20°C and TSS**

$BOD_5$20°C is a measure of the quantity of the organic matter in the water and the organic matter creates a potential for the water to become depleted in dissolved oxygen. As organic degradation takes place, bacteria and other decomposers use the oxygen in the water for respiration. Unless there is a steady resupply of oxygen to the system, the water will quickly become depleted of oxygen. Adequate dissolved oxygen levels are required to support aquatic life. Depressions of dissolved oxygen can lead to anaerobic conditions resulting in odors, or, in extreme cases, fish kills.

40 CFR part 133 describes the minimum level of effluent quality attainable by secondary treatment, for BOD and TSS, as:

- The 30-day average shall not exceed 30 mg/L, and
- The 7-day average shall not exceed 45 mg/L.

TIWRP provides tertiary treatment. As such, the BOD and TSS limits in the permit are more stringent than secondary treatment requirements and are based on Best Professional Judgment (BPJ). The Facility achieves solids removal better than secondary-treated wastewater by adding a polymer (Alum) to enhance precipitation of solids, and by filtering the effluent.

In addition to having mass-based and concentration-based effluent limitations for BOD and TSS, the Facility also has a percent removal requirement for these two constituents. In accordance with 40 CFR §§ 133.102(a)(3) and 133.102(b)(3), the 30-day average percent removal shall not be less than 85 percent. Percent removal is defined as a percentage expression of the removal efficiency across a treatment plant for a given pollutant parameter, as determined from the 30-day average values of the raw wastewater influent pollutant concentrations to the Facility and the 30-day average values of the effluent pollutant concentrations for a given time period.

ii. **pH**

The hydrogen ion activity of water (pH) is measured on a logarithmic scale, ranging from 0 to 14. While the pH of “pure” water at 25°C is 7.0, the pH of natural waters is usually slightly basic due to the solubility of carbon dioxide from the atmosphere. Minor changes from natural conditions can harm aquatic life. In accordance with 40 CFR § 133.102(c), the effluent values for pH shall be maintained within the limits of 6.0 to 9.0 unless the POTW demonstrates that (1) inorganic chemicals are not added to the waste stream

as part of the treatment process; and (2) contributions from industrial sources do not cause the pH of the effluent to be less than 6.0 or greater than 9.0. The effluent limitation for pH in this permit requiring that the wastes discharged shall at all times be within the range of 6.5 to 8.5 is taken from the Basin Plan (page 3-15) which reads "the pH of inland surface waters shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharge."

iii. **Settleable solids**

Excessive deposition of sediments can destroy spawning habitat, blanket benthic (bottom dwelling) organisms, and abrade the gills of larval fish. The limits for settleable solids are based on the Basin Plan (page 3-16) narrative, "Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses." The numeric limits are empirically based on results obtained from the settleable solids 1-hour test, using an Imhoff cone.

It is impracticable to use a 7-day average limitation, because short-term spikes of settleable solid levels that would be permissible under a 7-day average scheme would not be adequately protective of all beneficial uses. The monthly average and the daily maximum limits cannot be removed because none of the anti-backsliding exceptions apply. The monthly average and daily maximum limits were both included in the previous permit (Order R4-2010-0071) and TIWRP has been able to meet both limits.

iv. **Oil and grease**

Oil and grease are not readily soluble in water and form a film on the water surface. Oily films can coat birds and aquatic organisms, impacting respiration and thermal regulation, and causing death. Oil and grease can also cause nuisance conditions (odors and taste), are aesthetically unpleasant, and can restrict a wide variety of beneficial uses. The limits for oil and grease are based on the Basin Plan (page 3-11) narrative, "Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses."

The numeric limits are empirically based on concentrations at which an oily sheen becomes visible in water. It is impracticable to use a 7-day average limitation, because spikes that occur under a 7-day average scheme could cause a visible oil sheen. A 7-day average scheme would not be sufficiently protective of beneficial uses. The monthly average and the daily maximum limits cannot be removed because none of the anti-backsliding exceptions apply. Both limits were included in the previous permit (Order No. R4-2010-0071) and TIWRP has been able to meet both limits.

v. **Residual Chlorine**

Disinfection of wastewaters with chlorine produces a residual. Chlorine and its reaction products are toxic to aquatic life. The limit for residual chlorine is

based on the Basin Plan (page 3-9) narrative, "Chlorine residual shall not be present in surface water discharges at concentrations that exceed 0.1 mg/L and shall not persist in receiving waters at any concentration that causes impairment of beneficial uses."

It is impracticable to use a 7-day average or a 30-day average limitation, because it is not as protective as of beneficial uses as a daily maximum limitation is. Chlorine is very toxic to aquatic life and short term exposures of chlorine may cause fish kills.

vi. **Methylene Blue Activated Substances (MBAS)**

The MBAS procedure tests for the presence of anionic surfactants (detergents) in surface waters. Surfactants disturb the water surface tension, which affects insects and can affect gills in aquatic life. The MBAS can also impart an unpleasant soapy taste to water, as well as cause scum and foaming in waters, which impact the aesthetic quality of surface waters.

The existing permit effluent limitation of 0.5 mg/L for MBAS was developed based on the Basin Plan WQO. Given the nature of the facility (a POTW), which accepts domestic wastewater into the sewer system and treatment plant, and the characteristics of the wastes discharged, the discharge has reasonable potential to exceed both the numeric MBAS water quality objective and the narrative WQO for the prohibition of floating material such as foams and scums. In addition, surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use, based on the Basin Plan. Therefore the effluent limitation is required.

Given the nature of the facility which accepts domestic wastewater into the sewer system and treatment plant, and the characteristics of the pollutants discharged, the discharge has reasonable potential to exceed both the numeric MBAS WQO and the narrative WQO for the prohibition of floating material such as foams and scums. The discharge has tier 3 reasonable potential; therefore an effluent limitation is required.

vii. **Total Ammonia**

Ammonia is a pollutant routinely found in the wastewater effluent of POTWs, in landfill-leachate, as well as in run-off from agricultural fields where commercial fertilizers and animal manure are applied. Ammonia exists in two forms – un-ionized ammonia (NH_3) and the ammonium ion (NH_4^+). They are both toxic, but the neutral, un-ionized ammonia species (NH_3) is much more toxic, because it is able to diffuse across the epithelial membranes of aquatic organisms much more readily than the charged ammonium ion. The form of ammonia is primarily a function of pH, but it is also affected by temperature and other factors. Additional impacts can also occur as the oxidation of ammonia lowers the dissolved oxygen content of the water, further stressing aquatic organisms. Oxidation of ammonia to nitrate may lead to groundwater impacts in areas of recharge. Recycled water produced by the Permittee used for groundwater recharge are regulated under separate Water Recycling Requirements. Ammonia also combines with chlorine (often both

are present in POTW treated effluent discharges) to form chloramines – persistent toxic compounds that extend the effects of ammonia and chlorine downstream.

The 1994 Basin Plan provided water quality objectives for ammonia to protect aquatic life, in Tables 3-1 through Tables 3-4. However, those ammonia objectives were revised, based upon freshwater[13] and saltwater[15] criteria. The final effluent limitations for ammonia prescribed in this Order are based on the revised ammonia criteria (Resolution No. 2007-005) and apply at the end of pipe.

Freshwater Ammonia Water Objective – On April 25, 2002, the Regional Water Board adopted the Resolution No. 2002-011, Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life. The ammonia Basin Plan amendment was approved by the State Board, the Office of Administrative Law, and USEPA on April 30, 2003, June 5, 2003, and June 19, 2003, respectively. Although the revised ammonia water quality objectives may be less stringent than those contained in the 1994 Basin Plan, they are still protective of aquatic life and are consistent with USEPA's 1999 ammonia criteria update.

Saltwater Ammonia Objective – On March 4, 2004, the Regional Water Board adopted the Resolution No. 2004-022, Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters Not Characteristic of Freshwater (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life. The ammonia Basin Plan amendment is consistent with the U.S. EPA "Ambient Water Quality Criteria for Ammonia (Saltwater)-1989." The amendment revised the regulatory provisions of the Basin Plan by adding language to Chapter 3 "Water Quality Objectives." The saltwater ammonia Basin Plan amendment was approved by the State Water Board, the Office of Administrative Law, and USEPA on July 22, 2004, September 14, 2004, and May 19, 2005, respectively.

For inland surface waters not characteristic of freshwater (including enclosed bays, estuaries, and wetlands), the adopted objectives are a 4-day average concentration of unionized ammonia of 0.035 mg/L, and a one-hour average concentration of unionized ammonia of 0.233 mg/L. The adopted objectives are fixed concentrations of unionized ammonia, independent of pH, temperature, or salinity. The amendment includes an implementation procedure to convert un-ionized ammonia objectives to total ammonia effluent limits. The amendment also simplifies the implementation procedures for translating ammonia objectives into effluent limits in situations where a mixing zone has been authorized by the Regional Water Board. Finally, the amendment revises the implementation procedure for determining saltwater,

[13] The effluent limits were derived based on the salinity of the receiving waters. The CTR specifies that fresh water criteria apply at locations where the salinity is 1 part per thousand (ppt) or less 95% or more of the time, and marine water criteria apply at locations where the salinity is 10 ppt or more 95% or more of the time.

brackish or freshwater conditions, to be consistent with the objectives. The objectives will apply only to inland surface waters not characteristic of freshwater (including enclosed bays, estuaries and wetlands) and do not impact the Ammonia Water Quality Objectives for ocean waters contained in the California Ocean Plan.

Based on 2014 monitoring data for salinity collected in the Harbor (HW23, HW24, HW33, and HW43), the receiving water in the Harbor is definitely a marine water at 33 ppt. The freshwater ammonia water objective is not applicable in the Harbor. Therefore, the saltwater ammonia water objectives will be used to calculate the final ammonia effluent limitations for the Facility.

Receiving water data from 2014 and final effluent data from 2010 through 2014 were used to calculate the WQBELs for ammonia as follows:

Calculation for Ammonia

Step 1: Identify applicable water quality objectives for ammonia for the receiving water immediately downstream of the discharge.

2014 Average Salinity: 33.4 ppt

Water Quality Objectives for waters greater than or equal to 10 ppt 95% or more of the time
4-day Average Concentration = 0.035 mg unionized NH_3/L
1-hour Average Concentration = 0.233 mg unionized NH_3/L

Step 2b. Adjust the unionized saltwater ammonia objective to an ECA expressed as total ammonia.

$[NH_4^+] + [NH_3] = [NH_3] + [NH_3]*10^{(pK_a^S + 0.0324 (298-T) + 0.0415 P/T – pH}$

Where P = 1 atm
T = temperature (^oK)
$pK_a^S = 0.116 * i + 9.245$
$i = 19.9273 S (1000-1.005109 S)^{-1}$
S = Salinity

1-hour Average = (0.233 mg/L)+(0.233 mg/L)*(10^(9.32+0.0324*(298-294.3 ^oK)+0.0415*((1 atm)/294.3 ^oK)-8.1) = 5.33 mg NH_3/L

4-day Average = (0.035 mg/L)+(0.035 mg/L)*(10^(9.32+0.0324*(298-291.6 ^oK)+0.0415*((1 atm)/291.6 ^oK)-8.08) = 1.02 mg NH_3/L

Step 2a: For each water quality objective, calculate the effluent concentration allowance (ECA) using the following steady-state mass balance model:

ECA = WQO + D (WQO-B) when WQO > B

Where WQO = water quality objective (adjusted as described in Step 2b)

D = Dilution Credit = 65
B = ambient background concentration = 0.12 mg/L

1-hour Average = 5.33 + 65*(5.33-0.12) = 340 mg/L
4-day Average = 1.02 + 65*(1.02-0.12) = 59 mg/L

Step 3: <u>For each ECA calculated in Step 2, determine the long-term average discharge condition (LTA)</u>

ECA multiplier$_{1\text{-hour}99}$ = 0.12
ECA multiplier$_{4\text{-day}99}$ = 0.21

$LTA_{1\text{-hour}99} = ECA_{1\text{-hour}}$ * ECA multiplier$_{1\text{-hour}99}$ = 340 * 0.12 = 41 mg/L

$LTA_{4\text{-day}99} = ECA_{30\text{-day}}$ * ECA multiplier$_{4\text{-day}99}$ = 59 * 0.21 = 12 mg/L

Step 4: <u>Select the lowest (most limiting) of the LTAs derived in Step 3 (LTA_{min})</u>: 12 mg/L

Step 5: <u>Calculate Water quality based effluent limitations (a maximum daily effluent limitation (MDEL) and an average monthly effluent limitation (AMEL).</u>

MDEL = LTA_{min} * MDEL multiplier$_{99}$ = (12 mg NH_3/L) * 8.3 * (14 g N/ 17 g NH_3) = 85 mg NH_3-N

AMEL = LTA_{min} * AMEL multiplier$_{95}$ = (12 mg/L NH_3/L) * 2.7 *(14 g N/ 17 g NH_3) = 28 mg NH_3-N

viii. **Receiving Water Coliform/Bacteria Limitations**

(1). Geometric Mean Limits

(a). Total coliform density shall not exceed 1,000/100 mL.

(b). Fecal coliform density shall not exceed 200/100 mL.

(c). Enterococcus density shall not exceed 35/100 mL.

(2). Single Sample Limits

(a). Total coliform density shall not exceed 10,000/100 mL.

(b). Fecal coliform density shall not exceed 400/100 mL.

(c). Enterococcus density shall not exceed 104/100 mL.

(d). Total coliform density shall not exceed 10,000/100 mL, if the ration of fecal total coliform exceeds 0.1.

These receiving water limitations are based on Resolution No. 01-018, Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Bacteria Objectives for Water Bodies Designated for Water Contact Recreation, adopted by the Regional Water Board on October 25, 2001. The Resolution was approved by State Board, OAL, and USEPA, on July 18, 2002, September 19, 2002, and September 25, 2002, respectively.

ix. **Temperature**

USEPA document*, Quality Criteria for Water 1986* [EPA 440/5-86-001, May 1, 1986], also referred to as the *Gold Book,* discusses temperature and its effects on beneficial uses, such as recreation and aquatic life.

(1). The Federal Water Pollution Control Administration in 1967 called temperature "a catalyst, a depressant, an activator, a restrictor, a stimulator, a controller, a killer, and one of the most important water quality characteristics to life in water." The suitability of water for total body immersion is greatly affected by temperature. Depending on the amount of activity by the swimmer, comfortable temperatures range from 20°C to 30°C (68 °F to 86 °F).

(2). Temperature also affects the self-purification phenomenon in water bodies and therefore the aesthetic and sanitary qualities that exist. Increased temperatures accelerate the biodegradation of organic material both in the overlying water and in bottom deposits which makes increased demands on the dissolved oxygen resources of a given system. The typical situation is exacerbated by the fact that oxygen becomes less soluble as water temperature increases. Thus, greater demands are exerted on an increasingly scarce resource which may lead to total oxygen depletion and obnoxious septic conditions. Increased temperature may increase the odor of water because of the increased volatility of odor-causing compounds. Odor problems associated with plankton may also be aggravated.

(3). Temperature changes in water bodies can alter the existing aquatic community. Coutant (1972) has reviewed the effects of temperature on aquatic life reproduction and development. Reproductive elements are noted as perhaps the most thermally restricted of all life phases assuming other factors are at or near optimum levels. Natural short-term temperature fluctuations appear to cause reduced reproduction of fish and invertebrates.

The Basin Plan lists temperature requirements for the receiving waters. Based on the requirements of the Basin Plan and a white paper developed by Regional Water Board staff entitled *Temperature and Dissolved Oxygen Impacts on Biota in Tidal Estuaries and Enclosed Bays in the Los Angeles Region,* a maximum effluent temperature limitation of 86°F is included in the Order. The white paper evaluated the optimum temperatures for steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel. The new temperature effluent limitation is reflective of new information

available that indicates that the 100°F temperature which was formerly used in permits was not protective of aquatic organisms. A survey was completed for several kinds of fish and the 86°F temperature was found to be protective. It is impracticable to use a 7-day average or a 30-day average limitation for temperature, because it is not as protective as of beneficial uses as a daily maximum limitation is. A daily maximum limit is necessary to protect aquatic life and is consistent with the fishable/swimmable goals of the CWA.

Section IV.C.2.. of the Order contains the following effluent limitation for temperature:

> "The temperature of wastes discharged shall not exceed 86°F except as a result of external ambient temperature."

The above effluent limitation for temperature has been quoted in all recent NPDES permits adopted by this Regional Water Board.

x. **Turbidity**

Turbidity is an expression of the optical property that causes light to be scattered in water due to particulate matter such as clay, silt, organic matter, and microscopic organisms. Turbidity can result in a variety of water quality impairments. The effluent limitation for turbidity which reads, "For the protection of the water contact recreation beneficial use, the discharge to water courses shall have received adequate treatment, so that the turbidity of the wastewater does not exceed: (a) a daily average of 2 Nephelometric turbidity units (NTU); (b) 5 NTU more than 5 percent of the time (72 minutes) during any 24 hour period; and (c) 10 NTU at any time" is based on section 60301.320 of Title 22, chapter 3, "Filtered Wastewater" of the CCR. This turbidity limit is consistent with other POTWs in this region with filtration as part of the treatment process. The limitation therefore reflects what the technology is designed to achieve.

xi. **Radioactivity**

Radioactive substances are generally present in natural waters in extremely low concentrations. Mining or industrial activities increase the amount of radioactive substances in waters to levels that are harmful to aquatic life, wildlife, or humans. Regional Water Board staff uses Best Professional Judgment to establish radioactivity limits for the effluent using Maximum Contaminant Levels (MCLs) for drinking water specified in Title 22, Chapter 15, Article 5, Sections 64442 and 64443, of the California Code of Regulations, or subsequent revisions. During the permit cycle, radioactive substances were not present at concentrations that exceed the MCLs for drinking water; therefore, reasonable potential was not triggered and no final effluent limitations for radioactive substances were included in this Order.

c. **CTR and SIP**

The CTR and the SIP specify numeric objectives for toxic substances and the procedures whereby these objectives are to be implemented. The procedures include those used to conduct reasonable potential analysis (RPA) to determine the

need for effluent limitations for priority pollutants. The TSD also specifies procedures to conduct reasonable potential analyses.

3. **Determining the Need for WQBELs**

In accordance with Section 1.3 of the SIP, the Regional Water Board conducted a reasonable potential analysis for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the permit. The Regional Water Board analyzed effluent data to determine if a pollutant in a discharge has a reasonable potential to cause or contribute to an excursion above a state water quality standard. For all parameters that demonstrate reasonable potential, numeric WQBELs are required. The RPA considers water quality criteria from the CTR and NTR, and when applicable, water quality objectives specified in the Basin Plan. To conduct the RPA, the Regional Water Board staff identified the maximum effluent concentration (MEC) and maximum background concentration in the receiving water for each constituent, based on data provided by the Permittee. Data collected between January 2010 and September 2014 were used to calculate the final effluent limitations. For pollutants without RP and all non-detected, the effluent monitoring is kept at semiannual. For the pollutants without RP and with some detected, the effluent monitoring is kept at quarterly.

Section 1.3 of the SIP provides the procedures for determining reasonable potential to exceed applicable water quality criteria and objectives. The SIP specifies three triggers to complete a RPA:

Trigger 1 – If the MEC is greater than or equal to the CTR water quality criteria or applicable objective (C), a limitation is needed.

Trigger 2 – If background water quality (B) > C and the pollutant is detected in the effluent, a limitation is needed.

Trigger 3 – If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, then best professional judgment is used to determine that a limit is needed.

Sufficient effluent and ambient data are needed to conduct a complete RPA. If data are not sufficient, the Permittee will be required to gather the appropriate data for the Regional Water Board to conduct the RPA. Upon review of the data, and if the Regional Water Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

The RPA was performed for the priority pollutants regulated in the CTR for which data are available. Based on the RPA, pollutants that demonstrate reasonable potential are ammonia, copper, cyanide, and dioxin.

The following Table summarizes results from RPA.

Table F-6. Summary of Reasonable Potential Analysis

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L[14]	RPA Result - Need Limitation?	Reason
1	Antimony	4300	0.76	N/A	No	MEC<C
2	Arsenic	36	4.59	N/A	No	MEC<C
3	Beryllium	Narrative	<0.2	N/A	No	MEC<C
4	Cadmium	9.4	<0.4	N/A	No	MEC<C
5a	Chromium III	Narrative	<0.26	N/A	No	MEC<C
5b	Chromium VI	50	<0.5	N/A	No	MEC<C
6	**Copper**	**3.7**	**16.7**	**1.8[15]**	**YES**	**MEC>C**
7	Lead	8.5	< 3	0.74[16]	No	MEC<C, B<C
8	Mercury	0.051	< 0.2	0.018[16]	No	MEC<C, B<C
9	Nickel	8.3	6.45	N/A	No	MEC<C
10	Selenium	71	27.6	N/A	No	MEC<C
11	Silver	2.2	< 0.08	0.24[16]	No	MEC<C, B<C
12	Thallium	6.3	< 0.01	N/A	No	MEC<C
13	Zinc	85	33.8	N/A	No	MEC<C
14	**Cyanide**	**1**	**4**	**0.7[16]**	**YES**	**MEC>C**
15	Asbestos	N/A	N/A	N/A	N/A	N/A
16	**2,3,7,8-TCDD (Dioxin)**	**1.4×10^{-8}**	**3.5×10^{-8}**	**N/A**	**Yes**	**MEC>C**
17	Acrolein	780	< 1.13	N/A	No	MEC<C
18	Acrylonitrile	0.66	< 0.27	N/A	No	MEC<C
19	Benzene	71	< 0.22	N/A	No	MEC<C
20	Bromoform	360	8.33	N/A	No	MEC<C
21	Carbon Tetrachloride	4.4	< 0.27	N/A	No	MEC<C
22	Chlorobenzene	21,000	< 0.15	N/A	No	MEC<C
23	Dibromochloromethane	34	4.62	N/A	No	MEC<C
24	Chloroethane	No criteria	< 0.79	N/A	No	No criteria
25	2-chloroethyl vinyl ether	No criteria	< 0.63	N/A	No	No criteria
26	Chloroform	No criteria	< 0.13	N/A	No	No Criteria

[14] These are total recoverable concentrations of samples collected in 2005

[15] Receiving water monitoring data collected July 2005 to January 2007.

[16] Receiving water monitoring data collected May 2008 to April 2009.

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L[14]	RPA Result - Need Limitation?	Reason
27	Dichlorobromomethane	46	<0.12	N/A	No	MEC<C
28	1,1-dichloroethane	No criteria	< 0.16	N/A	No	No criteria
29	1,2-dichloroethane	99	< 0.08	N/A	No	MEC<C
30	1,1-dichloroethylene	3.2	< 0.2	N/A	No	MEC<C
31	1,2-dichloropropane	39	< 0.12	N/A	No	MEC<C
32	1,3-dichloropropylene	1,700	< 0.15	N/A	No	MEC<C
33	Ethylbenzene	29,000	< 0.16	N/A	No	MEC<C
34	Methyl bromide	4,000	< 0.51	N/A	No	MEC<C
35	Methyl chloride	No criteria	<0.37	N/A	No	No criteria
36	Methylene chloride	1,600	< 0.14	N/A	No	MEC<C
37	1,1,2,2-tetrachloroethane	11	< 0.14	N/A	No	MEC<C
38	Tetrachloroethylene	8.85	<0.2	N/A	No	MEC<C
39	Toluene	200,000	2.21	N/A	No	MEC<C
40	Trans 1,2-Dichloroethylene	140,000	< 0.2	N/A	No	MEC<C
41	1,1,1-Trichloroethane	No Criteria	< 0.2	N/A	No	No criteria
42	1,1,2-Trichloroethane	42	< 0.1	N/A	No	MEC<C
43	Trichloroethylene	81	< 0.16	N/A	No	MEC<C
44	Vinyl Chloride	525	< 0.26	N/A	No	MEC<C
45	2-chlorophenol	400	5.28	N/A	No	MEC<C
46	2,4-dichlorophenol	790	< 0.23	N/A	No	MEC<C
47	2,4-dimethylphenol	2,300	12.6	N/A	No	MEC<C
48	4,6-dinitro-o-resol(aka 2-methyl-4,6-Dinitrophenol)	765	< 1.67	N/A	No	MEC<C
49	2,4-dinitrophenol	14,000	< 2.82	N/A	No	MEC<C
50	2-nitrophenol	No criteria	< 0.45	N/A	No	No criteria
51	4-nitrophenol	No criteria	< 1.72	N/A	No	No criteria
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	No criteria	< 0.31	N/A	No	No criteria
53	Pentachlorophenol	7.9	< 1.21	N/A	No	MEC<C
54	Phenol	4,600,000	10.4	N/A	No	MEC<C
55	2,4,6-trichlorophenol	6.5	<0.85	N/A	No	MEC<C
56	Acenaphthene	2,700	< 0.13	N/A	No	MEC<C
57	Acenaphthylene	No criteria	1.67	N/A	No	No criteria

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L[14]	RPA Result - Need Limitation?	Reason
58	Anthracene	110,000	< 0.11	N/A	No	MEC<C
59	Benzidine	0.00054	< 1.81	N/A	No	MEC<C
60	Benzo(a)Anthracene	0.049	< 0.14	N/A	No	MEC<C
61	Benzo(a)Pyrene	0.049	< 0.13	N/A	No	MEC<C
62	Benzo(b)Fluoranthene	0.049	<0.14	N/A	No	MEC<C
63	Benzo(ghi)Perylene	No criteria	<0.03	N/A	No	No criteria
64	Benzo(k)Fluoranthene	0.049	<0.11	N/A	No	MEC<C
65	Bis(2-Chloroethoxy) methane	No criteria	< 0.16	N/A	No	No criteria
66	Bis(2-Chloroethyl)Ether	1.4	< 0.18	N/A	No	MEC<C
67	Bis(2-Chloroisopropyl) Ether	170,000	< 0.33	N/A	No	MEC<C
68	Bis(2-Ethylhexyl) Phthalate	5.9	<0.79	N/A	No	MEC<C
69	4-Bromophenyl Phenyl Ether	No criteria	< 0.2	N/A	No	No criteria
70	Butylbenzyl Phthalate	5,200	< 0.74	N/A	No	MEC<C
71	2-Chloronaphthalene	4,300	< 0.16	N/A	No	MEC<C
72	4-Chlorophenyl Phenyl Ether	No criteria	< 0.19	N/A	No	No criteria
73	Chrysene	0.049	<0.12	N/A	No	MEC<C
74	Dibenzo(a,h) Anthracene	0.049	<0.05	N/A	No	MEC<C
75	1,2-Dichlorobenzene	17,000	<0.21	N/A	No	MEC<C
76	1,3-Dichlorobenzene	2,600	< 0.35	N/A	No	MEC<C
77	1,4-Dichlorobenzene	2,600	< 0.35	N/A	No	MEC<C
78	3,3'-Dichlorobenzidine	0.077	< 2.78	N/A	No	MEC<C
79	Diethyl Phthalate	120,000	< 0.62	N/A	No	MEC<C
80	Dimethyl Phthalate	2,900,000	< 0.64	N/A	No	MEC<C
81	Di-n-Butyl Phthalate	12,000	<0.72	N/A	No	MEC<C
82	2,4-Dinitrotoluene	9.1	< 0.21	N/A	No	MEC<C
83	2,6-Dinitrotoluene	No criteria	< 0.19	N/A	No	No criteria
84	Di-n-Octyl Phthalate	No criteria	< 0.82	N/A	No	No criteria
85	1,2-Diphenylhydrazine	0.54	<0.16	N/A	No	MEC<C
86	Fluoranthene	370	< 0.04	N/A	No	MEC<C
87	Fluorene	14,000	0.24	N/A	No	MEC<C

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L[14]	RPA Result - Need Limitation?	Reason
88	Hexachlorobenzene	0.00077	< 0.17	N/A	No	MEC<C
89	Hexachlorobutadiene	50	< 0.57	N/A	No	MEC<C
90	Hexachlorocyclopenta-diene	17,000	< 3.83	N/A	No	MEC<C
91	Hexachloroethane	8.9	< 0.27	N/A	No	MEC<C
92	Indeno(1,2,3-cd)Pyrene	0.049	<0.04	N/A	No	MEC<C
93	Isophorone	600	0.19	N/A	No	MEC<C
94	Naphthalene	No criteria	<0.13	N/A	No	No criteria
95	Nitrobenzene	1,900	< 0.19	N/A	No	MEC<C
96	N-Nitrosodimethylamine	8.1	< 0.57	N/A	No	MEC<C
97	N-Nitrosodi-n-Propylamine	1.4	< 0.16	N/A	No	MEC<C
98	N-Nitrosodiphenylamine	16	< 0.24	N/A	No	MEC<C
99	Phenanthrene	No criteria	0.44	N/A	No	No criteria
100	Pyrene	11,000	<0.05	N/A	No	MEC<C
101	1,2,4-Trichlorobenzene	No criteria	< 0.42	N/A	No	No criteria
102	Aldrin	0.00014	<0.004	N/A	No	MEC<C
103	Alpha-BHC	0.013	<0.004	N/A	No	MEC<C
104	Beta-BHC	0.046	<0.003	N/A	No	MEC<C
105	Gamma-BHC (aka Lindane)	0.063	<0.005	N/A	No	MEC<C
106	delta-BHC	No criteria	<0.004	N/A	No	No criteria
107	Chlordane	0.00059	<0.07	N/A	No	MEC<C
108	4,4'-DDT	0.00059	<0.007	N/A	No	MEC<C
109	4,4'-DDE	0.00059	<0.004	N/A	No	MEC<C
110	4,4'-DDD	0.00084	<0.004	N/A	No	MEC<C
111	Dieldrin	0.00014	<0.005	N/A	No	MEC<C
112	Alpha-Endosulfan	0.0087	<0.008	N/A	No	MEC<C
113	Beta-Endosulfan	0.0087	<0.007	N/A	No	MEC<C
114	Endosulfan Sulfate	240	<0.008	N/A	No	MEC<C
115	Endrin	0.0023	<0.007	N/A	No	MEC<C
116	Endrin Aldehyde	0.81	<0.004	N/A	No	MEC<C
117	Heptachlor	0.00021	<0.008	N/A	No	MEC<C

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L[14]	RPA Result - Need Limitation?	Reason
118	Heptachlor Epoxide	0.00011	<0.006	N/A	No	MEC<C
119	PCB 1016	0.00017	<0.066	N/A	No	MEC<C
120	PCB 1221	0.00017	<0.116	N/A	No	MEC<C
121	PCB 1232	0.00017	<0.06	N/A	No	MEC<C
122	PCB 1242	0.00017	<0.075	N/A	No	MEC<C
123	PCB 1248	0.00017	<0.07	N/A	No	MEC<C
124	PCB 1254	0.00017	<0.068	N/A	No	MEC<C
125	PCB 1260	0.00017	<0.077	N/A	No	MEC<C
126	Toxaphene	0.0002	<0.085	N/A	No	MEC<C

4. **WQBEL Calculations**

a. **Calculation Options**. Once RPA has been conducted using either the TSD or the SIP methodologies, WQBELs are calculated. Alternative procedures for calculating WQBELs include dilution credits granted by the State Water Board for ammonia, MBAS, copper, cyanide, lead, mercury, and silver. Of these constituents, only ammonia, copper, and cyanide had reasonable potential to exceed the criteria based on final effluent data, but a limit for MBAS was still calculated due to the nature of the facility (Section IV.2.b.vi of the Fact Sheet). The ambient background concentrations in the receiving water for these constituents were below the water quality criteria so these chemicals are granted with a dilution credit of 65.

b. **SIP Calculation Procedure.** Section 1.4 of the SIP requires the step-by-step procedure to "adjust" or convert CTR numeric criteria into AMELs and MDELs, for toxics.

Sample calculation with dilution credit for Copper:

Step 1: <u>Identify applicable water quality criteria</u>

From California Toxics Rule (CTR), we can obtain the Criterion Maximum Concentration (CMC) and the Criterion Continuous Concentration (CCC).

Saltwater Aquatic Life Criteria:
CMC = 5.8 µg/L (CTR page 31712, column B1) and
CCC = 3.7 µg/L (CTR page 31712, column B1); and
The above numeric values are total recoverable limitations.

Step 2: <u>Calculate effluent concentration allowance (ECA)</u>

$ECA = C + D \times (C - B)$, when $C > B$

C = Criteria in CTR
D = Dilution Credit
B = Ambient Background Concentration

Therefore,
ECA acute = 5.8 µg/L + 65 × (5.8 µg/L – 1.8 µg/L) = 260 µg/L; and,
ECA chronic = 3.7 µg/L + 65 × (3.7 µg/L – 1.8 µg/L) = 130 µg/L

Step 3: Determine long-term average (LTA) discharge condition

Calculate CV:

CV = Standard Deviation/Mean = 4.2/5.6 = 0.75

ECA Multiplier acute = 0.26 and
ECA Multiplier chronic = 0.46

LTA acute = ECA acute x ECA Multiplier acute
= 260 µg/L x 0.26 = 68 µg/L
LTA chronic = ECA chronic x ECA Multiplier chronic
= 130 µg/L x 0.46 = 60 µg/L

Step 4: Select the lowest LTA, which is 60 µg/L.

Step 5: Calculate the Average Monthly Effluent Limitation (AMEL) & Maximum Daily Effluent Limitation (MDEL) for AQUATIC LIFE

Find the multipliers.

AMEL Multiplier = 1.7
MDEL Multiplier = 3.8

AMEL aquatic life = lowest LTA (from Step 4) x AMEL Multiplier
= 60 µg/L x 1.7 = 102 µg/L
MDEL aquatic life = lowest LTA (from Step 4) x MDEL Multiplier
= 60 µg/L x 3.8 = 230 µg/L

Step 6: Find the Average Monthly Effluent Limitation (AMEL) & Maximum Daily Effluent Limitation (MDEL) for HUMAN HEALTH

It is not available, due to no human health CTR.

Step 7: Compare the AMELs for Aquatic life and Human health and select the lowest. Compare the MDELs for Aquatic life and Human health and select the lowest

Lowest AMEL = 102 µg/L (Based on Aquatic Life protection)
Lowest MDEL = 230 µg/L (Based on Aquatic Life protection)

Sample calculation without dilution credit for Dioxin:

Step 1: Identify applicable water quality criteria

From California Toxics Rule (CTR), we can obtain the Criterion Maximum Concentration (CMC) and the Criterion Continuous Concentration (CCC).

Saltwater Aquatic Life Criteria:

CMC = No criteria (CTR page 31712, column B1) and
CCC = No criteria (CTR page 31712, column B1); and
Human Health Criteria for Organisms Only = 0.014 pg/L

Step 2: Calculate effluent concentration allowance (ECA)

ECA = Criteria in CTR = 0.014 pg/L

Step 3: Determine long-term average (LTA) discharge condition

Not applicable since there is no CMC or CCC.

Step 4: Select the lowest LTA

Not applicable since there is no CMC or CCC.

Step 5: Calculate the Average Monthly Effluent Limitation (AMEL) & Maximum Daily Effluent Limitation (MDEL) for AQUATIC LIFE

Calculate CV = 0.6 since at least 80% of the final effluent data were reported as "Not Detected".

Find the multipliers.
AMEL Multiplier = 1.6

AMEL aquatic life = lowest LTA (from Step 4) x AMEL Multiplier
= Not applicable
MDEL aquatic life = lowest LTA (from Step 4) x MDEL Multiplier
= Not applicable

Step 6: Find the Average Monthly Effluent Limitation (AMEL) & Maximum Daily Effluent Limitation (MDEL) for HUMAN HEALTH

CV = 0.6
$MDEL_{multiplier}/AMEL_{multiplier}$ = 3.1/1.6 = 1.9
$AMEL_{Human\ Health}$ = ECA = 0.014 pg/L
$MDEL_{Human\ Health}$ = ECA x (MDEL/AMEL) = 0.014 pg/L x 1.9 = 0.027 pg/L

Step 7: Compare the AMELs for Aquatic life and Human health and select the lowest. Compare the MDELs for Aquatic life and Human health and select the lowest

Lowest AMEL = 0.014 pg/L (Based on Aquatic Life protection)
Lowest MDEL = 0.027 pg/L (Based on Aquatic Life protection)

c. **TMDL WLA-based limitations**

Copper, Lead, Zinc, PAHs, DDT, and PCBs

Mass-based final WLAs were established for Terminal Island in the Harbor Toxics TMDL. WLA-based limits were included for copper, lead, zinc, PAHs, DDT, and PCBs as an annual average, consistent with the Harbor Toxics TMDL. These final effluent limitations will apply on the effective date of this Order because effluent data demonstrates that the Facility's discharge is currently able to comply with the final WLA-based limitations.

d. **Impracticability Analysis**

Federal NPDES regulations contained in 40 CFR § 122.45 continuous dischargers, states that all permit limitations, standards, and prohibitions, including those to achieve water quality standards, shall unless impracticable be stated as maximum daily and average monthly discharge limitations for all dischargers other than POTWs.

As stated by USEPA in its long standing guidance for developing WQBELs average alone limitations are not practical for limiting acute, chronic, and human health toxic effects.

For example, a POTW sampling for a toxicant to evaluate compliance with a 7-day average limitation could fully comply with this average limit, but still be discharging toxic effluent on one, two, three, or up to four of these seven days and not be meeting 1-hour average acute criteria or 4-day average chronic criteria. For these reasons, USEPA recommends daily maximum and 30-day average limits for regulating toxics in all NPDES discharges. For the purposes of protecting the acute effects of discharges containing toxicants (CTR human health for the ingestion of fish), daily maximum limitations may be established in NPDES permits for carcinogens, endocrine disruptors, and bioaccumulative constituents.

A 7-day average alone would not protect one, two, three, or four days of discharging pollutants in excess of the acute and chronic criteria. Fish exposed to these endocrine disrupting chemicals will be passed on to the human consumer. Endocrine disrupters alter hormonal functions by several means. These substances can:

i. mimic or partly mimic the sex steroid hormones estrogens and androgens (the male sex hormone) by binding to hormone receptors or influencing cell signaling pathways.

ii. block, prevent and alter hormonal binding to hormone receptors or influencing cell signaling pathways.

iii. alter production and breakdown of natural hormones.

iv. modify the making and function of hormone receptors.

e. **Mass-based limits**

40 CFR § 122.45(f)(1) requires that except under certain conditions, all permit limits, standards, or prohibitions be expressed in terms of mass units. 40 CFR § 122.45(f)(2) allows the permit writer, at its discretion, to express limits in additional units (e.g., concentration units). The regulations mandate that, where limits are expressed in more than one unit, the permittee must comply with both.

Generally, mass-based limits ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limits. Concentration-based effluent limits, on the other hand, discourage the reduction in treatment efficiency during low-flow periods and require proper operation of the treatment units at all times. In the absence of concentration-based effluent limits, a permittee would be able to increase its effluent concentration (i.e., reduce its level of treatment) during low-flow periods and still meet its mass-based limits. To account for this, this permit includes mass and concentration limits for some constituents.

Table F-7. Summary of WQBELs for Discharge Point 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instant-aneous Min.	Instant-aneous Max.
MBAS[17]	mg/L	33	--	--	--	--
	lbs/day[18]	8,200	--	--	--	--
Ammonia Nitrogen[17]	mg/L	28	--	85	--	--
	lbs/day[18]	7,000	--	21,000	--	--
Copper[17]	µg/L	102	--	230	--	--
	lbs/day	26	--	58	--	--
2,3,7,8-TCDD (Dioxin)	pg/L	0.014	--	0.027	--	--
	lbs/day[19]	3.5×10^{-6}	--	6.8×10^{-6}	--	--
Cyanide[17]	µg/L	10.4	--	21	--	--
	lbs/day[20]	2.6	--	5.3	--	--

[17] This constituent is granted with the dilution credit of 65.

[18] The mass emission rates are based on the plant design flow rate of 30 mgd, and are calculated as follows: Flow (mgd) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

[19] The mass emission rate is based on the plant design flow rate of 30 mgd, and is calculated as follows: Flow (mgd) x Concentration (pg/L) x 0.00000834 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

[20] The mass emission rates are based on the plant design flow rate of 30 mgd, and are calculated as follows: Flow (mgd) x Concentration (µg/L) x 0.00834 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instant-aneous Min.	Instant-aneous Max.
Chronic Toxicity[17, 21]	Pass or Fail, % Effect (Test of Significant Toxicity (TST))	Pass[22]	--	Pass or % Effect < 50	--	--

5. **Whole Effluent Toxicity (WET)**

Whole effluent toxicity (WET) testing protects receiving waters from the aggregate toxic effect of a mixture of pollutants in the effluent or pollutants that are not typically monitored. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a short or a longer period of time and may measure a sublethal endpoint such as reproduction or growth in addition to mortality. A constituent present at low concentrations may exhibit a chronic effect; however, a higher concentration of the same constituent may be required to produce an acute effect. Because of the nature of industrial discharges into the POTW sewershed, toxic constituents (or a mixture of constituents exhibiting toxic effects) may be present in the TIWRP effluent.

A total of 66 chronic and 55 acute WET tests were conducted on TIWRP final effluent between January 2010 and September 2014. No exceedances of the 62 TUc monthly median accelerated testing trigger were reported in the effluent; however, reasonable potential was identified because toxicity has been reported in the receiving water during this time period. There were no exceedances of the acute toxicity requirements during this time period; therefore, there is no reasonable potential for acute toxicity. This Order does, however, include a mixing zone and dilution credit which requires that acute toxicity not be present in the receiving water to ensure aquatic life passing through the mixing zone is not impaired as a result of wastes discharged. 40 CFR section 131.13 states, “States may, at their discretion, include in their State standards, policies affecting their application and implementation, such as mixing zones, low flows, and variances. Such policies are subject to EPA review and approval.” The SIP was approved by the USEPA, adopted in 2005, and includes requirements for mixing zone implementation. Section 1.4.2.2 of the SIP states, “A mixing zone shall not cause acutely toxic conditions to aquatic life passing through the mixing zone”. In addition, the USEPA-approved Basin Plan for the Los Angeles Region states, “There shall be no acute toxicity in ambient waters, including mixing zones.” Acute toxicity monitoring, along with an accelerated monitoring trigger, is included in this Order to ensure the conditions required for a mixing zone are met.

[21] The Median Monthly Effluent Limitation (MMEL) shall be reported as “Pass” or “Fail”. The Maximum Daily Effluent Limitation (MDEL) shall be reported as “Pass” or Fail” and “% Effect”. The MMEL for chronic toxicity shall only apply when there is a discharge more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests may be conducted when one toxicity test results in “Fail”.

[22] This is a Median Monthly Effluent Limitation.

The 2010 permit contained a final effluent trigger for chronic toxicity, however the 2015 permit contains final effluent limitations for chronic toxicity, expressed as a median monthly and a maximum daily limitation.

Even though the effluent did not exceed the chronic toxicity trigger during the previous permit term, effluent limitations for chronic toxicity were established because effluent data showed that the discharge exhibits tier 2 reasonable potential since toxicity has exceeded the 1 TUc limit in the receiving water and the maximum effluent result exceeded 1 TUc.

In the past, the State Water Board reviewed the circumstances warranting a numeric chronic toxicity effluent limitation for POTWS when there is reasonable potential with respect to SWRCB/OCC Files A-1496 & A-1496(a) [Los Coyotes/Long Beach Petitions]. On September 16, 2003, at a public hearing, the State Water Board adopted Order No. 2003-0012 (Los Coyotes Order) deferring the issue of numeric chronic toxicity effluent limitations for POTWS until a subsequent Phase of the SIP is adopted. In the meantime, the State Water Board replaced the numeric chronic toxicity limit with a narrative effluent limitation and a 1 TUc trigger, in the Long Beach and Los Coyotes WRP NPDES permits. TIWRP's NPDES permit contained a similar narrative chronic toxicity effluent limitation, with a numeric trigger of 62 for accelerated monitoring, consistent with the State Water Board's precedential Order.

However, many facts have changed since the State Water Board adopted the Los Coyotes Order in 2003. USEPA published two new guidance documents with respect to chronic toxicity testing; the Los Angeles Regional Water Board adopted NPDES permits for industrial facilities incorporating TST-based effluent limits for chronic toxicity and has adopted numeric chronic toxicity effluent limits for industrial facilities and POTWs with TMDL WLAs of 1 TUc; and the Santa Ana Regional Water Board adopted an NPDES permit for a POTW incorporating TST-based effluent limits for chronic toxicity. In addition to these and other factual developments, the State Water Board has not adopted a revised policy that addresses chronic toxicity effluent limitations in NPDES permits for inland discharges, as anticipated by the Los Coyotes Order. Because the Los Coyotes Order explicitly "declined to make a determination … regarding the propriety of the final numeric effluent limitations for chronic toxicity…," (Los Coyotes Order, p. 9) and because of the differing facts before the Regional Water Board in 2014 as compared to the facts that were the basis for the Los Coyotes Order in 2003, the Regional Water Board concludes that the Los Coyotes Order does not require inclusion of narrative rather than numeric effluent limitations for chronic toxicity. Further, the Regional Water Board finds that numeric effluent limitations for chronic toxicity are necessary, feasible, and appropriate because effluent data exhibited reasonable potential to cause or contribute to an exceedance of the toxicity water quality objective. Compliance with the chronic toxicity requirements contained in this 2015 Order shall be determined in accordance with sections VIII.J of the WDR.

On July 7, 2014, the Chief Deputy of the Water Quality Division announced that the State Water Board would be releasing a revised version of the Chronic Toxicity Plan for public comment within a few weeks. Regional Water Board staff awaits its release. Because effluent data exhibited reasonable potential to cause or contribute to an exceedance of the water quality objective, the TIWRP 2015 permit contains numeric chronic toxicity effluent limitations. Compliance with the chronic toxicity requirement contained in the 2015 Order shall be determined in accordance with sections VIII.J. of

the WDR. Nevertheless, this Order contains a reopener to require the Regional Water Board to modify the permit, if necessary, to make it consistent with any new policy, law, or regulation.

For this permit, chronic toxicity in the discharge is evaluated using a median monthly effluent limitation and a maximum daily effluent limitation that utilizes USEPA's 2010 Test of Significant Toxicity (TST) hypothesis testing approach. The chronic toxicity effluent limitations are expressed as "Pass" for the median monthly summary result and as "Pass" or "<50 % Effect" for each maximum daily individual result.

In January 2010, USEPA published a guidance document titled *EPA Regions 8, 9 and 10 Toxicity Training Tool*, which among other things discusses permit limit expression for chronic toxicity. The document acknowledges that NPDES regulations at 40 CFR 122.45(d) require that all permit limits be expressed, unless impracticable, as an Average Weekly Effluent Limitation (AWEL) and an Average Monthly Effluent Limitation (AMEL) for POTWs. Following Section 5.2.3 of the Technical Support Document (TSD), the use of an AWEL is not appropriate for WET. In lieu of an AWEL for POTWs, USEPA recommends establishing a Maximum Daily Effluent Limitation (MDEL) for toxic pollutants and pollutants in water quality permitting, including WET. This is appropriate for two reasons. The basis for the average weekly requirement for POTWs derives from secondary treatment regulations and is not related to the requirement to assure achievement of WQS. Moreover, an average weekly requirement comprising of up to seven daily samples could average out daily peak toxic concentrations for WET and therefore, the discharge's potential for causing acute and chronic effects would be missed. It is impracticable to use an AWEL, because short-term spikes of toxicity levels that would be permissible under the 7-day average scheme would not be adequately protective of all beneficial uses. The MDEL is the highest allowable value for the discharge measured during a calendar day or 24-hour period representing a calendar day. The AMEL is the highest allowable value for the average of daily discharges obtained over a calendar month. For WET, this is the average of individual WET test results for that calendar month. However, in cases where a chronic mixing zone is not authorized, USEPA Regions 9 and 10 continue to recommend that the AMEL for chronic WET should be expressed as a Median Monthly Effluent Limit (MMEL).

Later in June 2010, USEPA published another guidance document titled *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, June 2010), in which they recommend the following: "Permitting authorities should consider adding the TST approach to their implementation procedures for analyzing valid WET data for their current NPDES WET Program." The TST approach is another statistical option for analyzing valid WET test data. Use of the TST approach does not result in any changes to EPA's WET test methods. Section 9.4.1.2 of USEPA's *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms* (EPA/821/R-02/014, 2002), recognizes that, "the statistical methods in this manual are not the only possible methods of statistical analysis." The TST approach can be applied to acute (survival) and chronic (sublethal) endpoints and is appropriate to use for both freshwater and marine EPA WET test methods.

USEPA's WET testing program and acute and chronic WET methods rely on the measurement result for a specific test endpoint, not upon achievement of specified concentration-response patterns to determine toxicity. USEPA's WET methods do not require achievement of specified effluent or ambient concentration-response patterns

prior to determining that toxicity is present.[23] Nevertheless, USEPA's acute and chronic WET methods require that effluent and ambient concentration-response patterns generated for multi-concentration acute and chronic toxicity tests be reviewed – as a component of test review following statistical analysis – to ensure that the calculated measurement result for the toxicity test is interpreted appropriately. (EPA-821-R-02-012, section 12.2.6.2; EPA-821-R-02-013, section 10.2.6.2). In 2000, EPA provided guidance for such reviews to ensure that test endpoints for determining toxicity based on the statistical approaches utilized at the time the guidance was written (NOEC, LC50s, IC25s) were calculated appropriately (EPA 821-B-00-004)

USEPA designed its 2000 guidance as a standardized step-by-step review process that investigates the causes for ten commonly observed concentration-response patterns for NOECs, LC50s, and IC25s, thereby reducing the number of misclassified test results. The guidance provides one of three determinations based on the review steps: that calculated effect concentrations are reliable and should be reported, that calculated effect concentrations are anomalous and should be explained, or that the test was inconclusive and should be repeated with a newly collected sample. The standardized review of the effluent and receiving water concentration-response patterns provided by EPA's 2000 guidance decreased discrepancies in data interpretation for NOEC, LC50, and IC25 test results, thereby lowering the chance that a truly nontoxic sample3 would be misclassified and reported as toxic.

Appropriate interpretation of the measurement result from USEPA's TST statistical approach (Pass/Fail) for effluent and receiving water samples is, by design, independent from the concentration-response patterns of the toxicity tests for those samples. Therefore, when using the TST statistical approach, application of WPA's 2000 guidance on effluent and receiving waters concentration-response patterns will not improve the appropriate interpretation of TST results as long as all Test Acceptability Criteria and other test review procedures – including those related to Quality Assurance for effluent and receiving water toxicity tests, reference toxicant tests, and control performance (mean, standard deviation, and coefficient of variation) – described by the WET test methods manual and TST guidance, are followed. The 2000 guidance may be used to identify reliable, anomalous, or inconclusive concentration-response patterns and associated statistical results to the extent that the guidance recommends review of test procedures and laboratory performance already recommended in the WET test methods manual. The guidance does not apply to single concentration (IWC) and control statistical t-tests and does not apply to the statistical assumptions on which the TST is based. The Regional Water Board will not consider a concentration-response pattern as sufficient basis to determine that a TST t-test result for a toxicity test is anything other than valid, absent other evidence. In a toxicity laboratory, unexpected concentration-response patterns should not occur with any regular frequency and consistent reports of anomalous or inconclusive concentration-response patterns or test results that are not valid will require an investigation of laboratory practices.

Any Data Quality Objectives or Standard Operating Procedure used by the toxicity testing laboratory to identify and report valid, invalid, anomalous, or inconclusive effluent or receiving water toxicity test measurement results from the TST statistical approach which include a consideration of concentration-response patterns and/or PMSDs must

[23] See Supplementary Information in support of the Final Rule establishing WET test methods at 67 Fed Reg 69952., 69963, Nov. 19, 2002.

be submitted for review by the Regional Water Board, in consultation with USEPA and the State Water Board's Quality Assurance Officer and Environmental Laboratory Accreditations Program (40 CFR 122.44(h)). The PMSD criteria only apply to compliance for NOEC and the sublethal endpoints of the NOEC, and therefore are not used to interpret TST results.

D. Final Effluent Limitation Considerations

1. Anti-Backsliding Requirements

Sections 402(o) and 303(d)(4) of the CWA and federal 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. The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with the exception of effluent limitations for copper and MBAS. New information provided the reasoning for the revised limitations, which constitutes an exception to the general rule against backsliding. This new information was not available at the time the prior permit was issued and would have justified the application of a less stringent effluent limitation. This increase of the effluent limitations for these constituents is consistent with the anti-backsliding requirements of the CWA and federal regulations. Applicable exceptions to the anti-backsliding requirements justifying removal of certain effluent limitations include new information obtained after permit issuance.

2. Antidegradation Policy

40 CFR § 131.12 requires that state water quality standards include an antidegradation policy consistent with the federal antidegradation policy. On October 28, 1968, the State Water Board established California's antidegradation policy when it adopted Resolution No. 68-16*, Statement of Policy with Respect to Maintaining the Quality of the Waters of the State.* Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The State Water Board has, in State Water Board Order No. 86-17 and an October 7, 1987 guidance memorandum, interpreted Resolution No. 68-16 to be fully consistent with the federal antidegradation policy contained in 40 CFR § 131.12. Similarly, CWA section 303(d)(4)(B) and 40 CFR § 131.12 require that all permitting actions be consistent with the federal antidegradation policy. Together, the state and federal antidegradation policies are designed to ensure that a water body will not be degraded resulting from the permitted discharge. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies.

Los Angeles/Long Beach Harbor is included on the 303(d) list for many pollutants. The Regional Water Board adopted the Harbor TMDL to attain water quality standards in the receiving waters and sediments for: copper, lead, zinc, DDT, PCBs, and PAHs. The NPDES permit contains concentration-based receiving water limits for copper, lead, zinc, d,d'-DDT, and PCBs. The renewal of the NPDES permit will not lower surface water quality because the conditions in the Order are at least as stringent as the prior Order, with the exception described above which is not present in the discharge at concentrations that would exhibit reasonable potential to cause or contribute to an exceedance of a water quality objective. This Order also requires continued monitoring of these constituents to ensure that effluent concentrations do not increase beyond current levels. This Order does not provide for an increase in the permitted design flow or allow for a reduction in the level of treatment. The effluent limits hold the Permittee to

performance levels that will not cause or contribute to water quality impairment or water quality degradation. Further, compliance with these requirements will result in the use of best practicable treatment or control of the discharge. Therefore, discharges permitted in this Order are consistent with the antidegradation provisions of 40 CFR § 131.12 and State Water Board Resolution No. 68-16.

3. **Stringency of Requirements for Individual Pollutants**

This Order contains both TBELs and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD, TSS, pH, and percent removal of BOD and TSS. Restrictions on BOD, TSS and pH are discussed in section IV.B. of the Fact Sheet. 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 that are necessary to meet water quality standards.

Water quality-based effluent limitations have been scientifically derived to implement WQOs that protect beneficial uses. Both the beneficial uses and the WQOs have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR § 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. All 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 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 requirements of the CWA and the applicable water quality standards for purposes of the CWA.

Table F-8. Summary of Final Effluent Limitations for Discharge Point 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
$BOD_5$20ºC	mg/L	15	30	40	--	--
	lbs/day[24]	3,800	7,500	10,000	--	--
Total Suspended Solids (TSS)	mg/L	15	30	40	--	--
	lbs/day[26]	3,800	7,500	10,000	--	--
pH	standard units	--	--	--	6.5	8.5
Oil and Grease	mg/L	10	--	15	--	--
	lbs/day[24]	2,500	--	3,800	--	--

[24] The mass emission rates are based on the plant design flow rate of 30 mgd, and are calculated as follows: Flow (mgd) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Settleable Solids	mL/L	0.1	--	0.3	--	--
Total Residual Chlorine	mg/L	--	--	0.1[25]	--	--
	lbs/day[24]	--	--	25	--	--
Chronic Toxicity[26]	Pass or Fail, % Effect (TST)	Pass[27]	--	Pass or % Effect < 50	--	--
MBAS	mg/L	33	--	--	--	--
	lbs/day[24]	8,200	--	--	--	--
Ammonia Nitrogen	mg/L	28	--	85	--	--
	lbs/day[24]	7,000	--	21,000	--	--
Copper	µg/L	102	--	230	--	--
	lbs/day[29]	26	--	58	--	--
Copper	kg/yr	80.4[28]	--	--	--	--
Lead	kg/yr	183.6[28]	--	--	--	--
Zinc	kg/yr	1,845[28]	--	--	--	--
Total PAHs	kg/yr	1.056[28]	--	--	--	--
Total DDT	g/yr	12.7[28]	--	--	--	--
Total PCBs	g/yr	0.37[28]	--	--	--	--
Cyanide	µg/L	10.4	--	21	--	--
	lbs/day[29]	2.6	--	5.3	--	--
2,3,7,8-TCDD (Dioxin)	pg/L	0.014	--	0.027	--	--

[25] For continuous total residual chlorine recording devices that require greater than one minute to level off after the detection of a spike: if it can be demonstrated that a stoichiometrically appropriate amount of dechlorination chemical has been added to effectively dechlorinate the effluent to 0.1 mg/L or less, then the exceedance over one minute, but not for more than five minutes, will not be considered to be a violation.

[26] The Median Monthly Effluent Limitation (MMEL) shall be reported as "Pass" or "Fail". The Maximum Daily Effluent Limitation (MDEL) shall be reported as "Pass" or Fail" and "% Effect". The MMEL for chronic toxicity shall only apply when there is a discharge more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests may be conducted when one toxicity test results in "Fail".

[27] This is a Median Monthly Effluent Limitation.

[28] This mass-based final effluent limitation is based on the Harbor Toxics TMDL and is represented as a running annual average.

[29] The mass emission rates are based on the plant design flow rate of 30 mgd, and are calculated as follows: Flow (mgd) x Concentration (µg/L) x 0.00834 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

	lbs/day[30]	3.5×10^{-6}	--	6.8×10^{-6}	--	--

E. Interim Effluent Limitations

No interim effluent limits are included in this NPDES Order.

F. Land Discharge Specifications – Not Applicable

G. Recycling Specifications

1. Current Reclaimed Projects – The production, distribution, and reuse of recycled water are presently regulated under Water Reclamation Requirements (WRRs) and Waste Discharge Requirements (WDRs) Order No. R4-2003-0025 (Harbor Water Recycling Project (HWRP) for nonpotable applications) and R4-2003-0134 (HWRP for injection at Dominguez Gap Barrier), adopted by this Board on January 30, 2003 and October 2, 2003, respectively. The HWRP programs are being undertaken by the City to comply with Regional Board Resolution No. 94-009 to ultimately phase out discharge of wastewater into the Los Angeles Harbor.

2. Future Reclaimed Project – The City currently treats up to 6 mgd of the tertiary effluent at the Advanced Water Purification Facility (AWPF) for delivery of 5 mgd (Phase I) of product water to LADWP's Harbor Generating Station and the Dominguez Gap Seawater Intrusion Barrier (Barrier). The City is in the process of implementing Phase II, which includes expanding the AWPF to treat up to 12 mgd tertiary treated wastewater for use in the Barrier, Machado Lake, Harbor Generating Station, and other uses in the harbor area. Once the expansion is complete, the City will be able to treat all of the current dry weather flow from the TIWRP at the AWPF. Phase III of this expansion will increase the capacity of the AWPF to 22.5 mgd and the City will begin to consider this expansion once the influent flow rate reaches 75% of the design capacity.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

Receiving water limitations are based on WQOs contained in the Basin Plan and are a required part of this Order.

An acute toxicity receiving water limitation was included in this Order to protect aquatic life and the beneficial uses of the Los Angeles Harbor. 40 CFR section 131.13 states, "States may, at their discretion, include in their State standards, policies affecting their application and implementation, such as mixing zones, low flows, and variances. Such policies are subject to EPA review and approval." The SIP was approved by the USEPA, adopted in 2005, and includes requirements for mixing zone implementation. Section 1.4.2.2 of the SIP states, "A mixing zone shall not cause acutely toxic conditions to aquatic life passing through the mixing zone". In addition, the USEPA-approved Basin Plan for the Los Angeles Region states, "There shall be no acute toxicity in ambient waters, including mixing zones." Since the Terminal Island WRP was granted a mixing

[30] The mass emission rate is based on the plant design flow rate of 30 mgd, and is calculated as follows: Flow (mgd) x Concentration (pg/L) x 0.00000834 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

zone in the Los Angeles Outer Harbor, an acute toxicity receiving water limitation is needed to ensure dilution credits are warranted.

Receiving water limitations for copper, lead, zinc, 4,4'-DDT, and PCBs, are based on the final WLAs assigned in the Harbor Toxics TMDL.

B. Groundwater

Not applicable.

VI. RATIONALE FOR PROVISIONS

A. Standard 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 Permittee must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Parts 122.41(a)(1) and (b) through (n) of 40 CFR establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Part 123.25(a)(12) of 40 CFR allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR § 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR § 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. Special Provisions

1. Reopener Provisions

This provision is based on 40 CFR part 123. The Regional Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations, modification in sludge use or disposal practices, or adoption of new regulations by the State Water Board or Regional Water Board, including revisions to the Basin Plan.

2. Special Studies and Additional Monitoring Requirements

a. **Constituents of Emerging Concern (CEC)**. In recent years, the Los Angeles Regional Water Board has incorporated monitoring of a select group of man-made chemicals, particularly pesticides, pharmaceuticals and personal care products, known collectively as CECs, into permits issued to POTWs to better understand the propensity, persistence and effects of CECs in our environment. Recently adopted permits in this region contain requirements for CEC effluent monitoring and submittal of a work plan identifying the CECs to be monitored in the effluent, sample type, sampling frequency and sampling methodology. Based on feedback received from permittees and the Regional Water Board staff's review of the results of a recent CEC-related study by the Southern California Coastal Water Research Project (SCCWRP) and the State Water Board, we have modified our CEC monitoring program to respond to feedback while proceeding to fill identified data gaps without overly burdening any one permittee.

The Permittee shall conduct a special study to investigate the CECs in the effluent discharge as listed in Table E-11 of the MRP. These constituents shall be monitored annually for at least two years. The Regional Water Board has determined that two years is an appropriate time period to determine those CECs that are present in POTW effluent. Monitoring results shall be reported as part of the annual report. Analysis under this section is for monitoring purposes only. Analytical results obtained for this study will not be used for compliance determination purposes, since the methods have not been incorporated into 40 CFR part 136.

b. **Antidegradation Analysis and Engineering Report for Proposed Plant Expansion.** This provision is based on the State Water Board Resolution No. 68-16, which requires the Regional Water Board in regulating the discharge of waste to maintain high quality waters of the state. The Permittee must demonstrate that it has implemented adequate controls (e.g., adequate treatment capacity) to ensure that high quality waters will be maintained. This provision requires the Permittee to clarify that it has increased plant capacity through the addition of new treatment system(s) to obtain alternative effluent limitations for the discharge from the treatment system(s). This provision requires the Permittee to report specific time schedules for the plant's projects. This provision requires the Permittee to submit a report to the Regional Water Board for approval.

c. **Operations Plan for Proposed Expansion.** This provision is based on section 13385(j)(1)(D) of the CWC and allows a time period not to exceed 90 days in which the Permittee may adjust and test the treatment system(s). This provision requires the Permittee to submit an Operations Plan describing the actions the Permittee will take during the period of adjusting and testing to prevent violations.

d. **Treatment Plant Capacity.** The treatment plant capacity study required by this Order shall serve as an indicator for the Regional Water Board regarding the Facility's increasing hydraulic capacity and growth in the service area.

3. **Best Management Practices and Pollution Prevention**

Pollutant Minimization Program (PMP). This provision is based on the requirements of section 2.4.5 of the SIP.

4. **Construction, Operation, and Maintenance Specifications**

This provision is based on the requirements of 40 CFR § 122.41(e) and the previous Order.

5. **Special Provisions for Municipal Facilities (POTWs Only)**

a. **Biosolids Requirements.** To implement CWA section 405(d), on February 19, 1993, USEPA promulgated 40 CFR part 503 to regulate the use and disposal of municipal sewage sludge. This regulation was amended on September 3, 1999. The regulation requires that producers of sewage sludge meet certain reporting, handling, and disposal requirements. It is the responsibility of the Permittee to comply with said regulations that are enforceable by USEPA, because California has not been delegated the authority to implement this program. The Permittee is also responsible for compliance with WDRs and NPDES permits for the

generation, transport and application of biosolids issued by the State Water Board, other Regional Water Boards, Arizona Department of Environmental Quality or USEPA, to whose jurisdiction the Facility's biosolids will be transported and applied.

b. **Pretreatment Requirements.** This permit contains pretreatment requirements consistent with applicable effluent limitations, national standards of performance, and toxic and performance effluent standards established pursuant to Sections 208(b), 301, 302, 303(d), 304, 306, 307, 403, 404, 405, and 501 of the CWA, and amendments thereto. This permit contains requirements for the implementation of an effective pretreatment program pursuant to Section 307 of the CWA; 40 CFR 35 and 403; and/or Section 2233, Title 23, California Code of Regulations.

c. **Spill Reporting Requirements.** This Order established a reporting protocol for how different types of spills, overflow or bypasses of raw or partially treated sewage from its collection system or treatment plant covered by this Order shall be reported to regulatory agencies.

The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order 2006-0003-DWQ (SSO WDR) on May 2, 2006. The Monitoring and Reporting Requirements for the SSO WDR were amended by Water Quality Order WQ 2008-0002-EXEC on February 20, 2008. The SSO WDR requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage under the SSO WDR. The SSO WDR requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions.

Furthermore, the SSO WDR contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. The Permittee must comply with both the General Order and this Order.

6. **Other Special Provisions (Not Applicable)**

7. **Compliance Schedules**

There is no compliance schedule included in Special Provisions section VII.C.7.

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 308(a) of the federal Clean Water Act and sections 122.41(h), (j)-(l), 122,44(i), and 122.48 of Title 40 of the Code of Federal Regulations (40 CFR) require that all NPDES permits specify monitoring and reporting requirements. CWC sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The MRP establishes monitoring, reporting, and recordkeeping requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this Facility.

A. Influent Monitoring

Influent monitoring is required to determine compliance with the permit conditions for BOD_5 20°C and suspended solids removal rates; to assess treatment plant performance; to assess the effectiveness of the Pretreatment Program; and as a requirement of the PMP.

B. Effluent Monitoring

The Permittee is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are given in the MRP Attachment E. This provision requires compliance with the MRP, and is based on 40 CFR parts 122.44(i), 122.62, 122.63, and 124.5. The MRP is a standard requirement in almost all NPDES permits (including this Order) issued by the Regional Water Board. In addition to containing definition of terms, it specifies general sampling/analytical protocols and the requirements of reporting spills, violation, and routine monitoring data in accordance with NPDES regulations, the CWC, and Regional Water Board policies. The MRP also contains sampling program specific for the Permittee's wastewater treatment plant. It defines the sampling stations and frequency, pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all pollutants for which effluent limitations are specified. Further, in accordance with section 1.3 of the SIP, a periodic monitoring is required for all priority pollutants defined by the CTR, for which criteria apply and for which no effluent limitations have been established, to evaluate reasonable potential to cause or contribute to an excursion above a water quality standard.

Monitoring for those pollutants expected to be present in the discharge from the Facility, will be required as shown on the MRP and as required in the SIP. Semi-annual monitoring for priority pollutants in the effluent is required in accordance with the Pretreatment requirements.

Monitoring frequency for the constituents is based on historic monitoring frequency, Best Professional Judgment, and the following criteria:

Criterion 1: Monitoring frequency will be monthly for those pollutants with reasonable potential to exceed water quality objectives (monitoring has shown an exceedance of the objectives);

Criterion 2: Monitoring frequency will be quarterly for those pollutants in which some or all of the historic effluent monitoring data detected the pollutants, but without reasonable potential to exceed water quality objectives;

Criterion 3: Monitoring frequency will be semiannually for those pollutants in which all of the historic effluent monitoring data have had non-detected concentrations of the pollutants and without current reasonable potential to exceed water quality objectives.

Table F-9. Effluent Monitoring Frequency Comparison

Parameter	Monitoring Frequency (2010 Permit)	Monitoring Frequency (2015 Permit)
Total waste flow	continuous	no change
Total residual chlorine	continuous	no change
Turbidity	continuous	no change
Temperature	weekly	no change
pH	weekly	no change
Settleable solids	weekly	no change
Total suspended solids	weekly	no change

Parameter	Monitoring Frequency (2010 Permit)	Monitoring Frequency (2015 Permit)
Oil and grease	weekly	no change
$BOD_5 20^oC$	weekly	no change
Dissolved oxygen	weekly	no change
MBAS	monthly	no change
CTAS	monthly	no change
Ammonia nitrogen	monthly	no change
Nitrate + nitrite (as nitrogen)	monthly	no change
Organic N	monthly	no change
Total Nitrogen	monthly	no change
Chronic toxicity	monthly	no change
Acute toxicity	monthly	no change
Beryllium	quarterly	semi-annually
Total Chromium	quarterly	no change
Chromium VI	quarterly	semi-annually
Copper	monthly	no change
Lead	quarterly	monthly
Zinc	quarterly	monthly
Total PAHs	semiannually	monthly
Total DDT	semiannually	monthly
Total PCBs	semiannually	monthly
Cyanide	quarterly	monthly
Remaining EPA Priority Pollutant Metals	quarterly	no change
Bromoform	quarterly	no change
2,3,7,8-TCDD (Dioxin)	semi-annually	quarterly
Chlorodibromomethane	quarterly	no change
Chloroform	quarterly	no change
Dichlorobromomethane	quarterly	no change
Ethylbenzene	quarterly	semiannually
Methylene chloride	quarterly	no change
Tetrachloroethylene	quarterly	no change
Toluene	quarterly	no change
Trichloroethylene	quarterly	no change
2,4,6-Trichlorophenol	quarterly	no change
Bis(2-ethylhexyl)phthalate	quarterly	no change
Dibenzo(a,h)Anthracene	quarterly	semiannually
Indeno(1,2,3-cd)Pyrene	quarterly	semiannually

Parameter	Monitoring Frequency (2010 Permit)	Monitoring Frequency (2015 Permit)
Pyrene	quarterly	no change
Dieldrin	quarterly	semiannually
Pesticides	semiannually	no change
PCBs as Aroclors	semiannually	quarterly
PCBs as Congeners	N/A	annually
Remaining EPA Priority Pollutants excluding asbestos	semiannually	no change
Tributyltin	semiannually	no change
Radioactivity	semiannually	no change

C. Whole Effluent Toxicity (WET) Requirements

The rationale for WET has been discussed extensively in section IV.C.5 of this Fact Sheet.

D. Receiving Water Monitoring

1. Surface Water

Receiving water monitoring is required to determine compliance with receiving water limitations and to characterize the water quality of the receiving water.

2. Groundwater – (Not Applicable)

VIII. NUISANCE AND CALIFORNIA WATER CODE § 13241 FACTORS

Some of the provisions/requirements in this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations. As required by CWC section 13263, the Regional Water Board has considered the need to prevent nuisance and the factors listed in CWC section 13241 in establishing the state law provisions/requirements. The Regional Water Board finds, on balance, that the state law requirements in this Order are reasonably necessary to prevent nuisance and to protect beneficial uses identified in the Basin Plan, and the section 13241 factors are not sufficient to justify failing to protect those beneficial uses.

A. Need to Prevent Nuisance

The state law requirements in this Order are required to prevent pollution or nuisance as defined in section 13050, subdivisions (l) and (m), of the CWC. Many are also required in accordance with narrative water quality objectives in the Basin Plan. These state requirements include, but are not limited to, groundwater limitations, spill prevention plans, operator certification, sanitary sewer overflow reporting, and requirements for standby or emergency power.

B. Past, Present, and Probable Future Beneficial Uses of Water

Chapter 2 of the Basin Plan identifies designated beneficial uses for water bodies in the Los Angeles Region. Beneficial uses of water relevant to this Order are also identified above in Section III.C.1.

C. Environmental Characteristics

Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto, are discussed in the Region's Watershed Management Initiative Chapter, as well as available in State of the Watershed reports and the State's CWA Section 303(d) List of impaired waters. The environmental characteristics of the hydrographic unit, including the quality of available water, will be improved by compliance with the requirements of this Order. Additional information on the CCW is available at http://www.waterboards.ca.gov/losangeles/water_issues/programs/regional_program/Water_Quality_and_Watersheds/ws_calleguas.shtml

D. Water Quality Conditions

Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area shall be considered. The beneficial uses of the water bodies in the CCW can reasonably be achieved through the coordinate control of all factors that affect water quality in the area. TMDLs have been developed (as required by the Clean Water Act) for many of the impairments in the watershed. A number of Regional Water Board programs and actions are in place to address the water quality impairments in the watershed, including regulation of point source municipal and industrial discharges with appropriate NPDES permits and non-point source discharges such as irrigated agriculture. All of these regulatory programs control the discharge of pollutants to surface and ground waters to prevent nuisance and protect beneficial uses. These regulatory programs have resulted in watershed solutions and have improved water quality. Generally, improvements in the quality of the receiving waters impacted by the permittee's discharges can be achieved by reducing the volume of discharges to receiving waters (e.g., through increased recycling), reducing pollutant loads through source control/pollution prevention, including operational source control such as public education (e.g., disposal of pesticides, pharmaceuticals, and personal care products into the sewer) and product or materials elimination or substitution, and removing pollutants through treatment.

E. Economic Considerations

The Permittee did not present any evidence regarding economic considerations related to this Order. However, the Regional Water Board has considered the economic impact of requiring certain provisions pursuant to state law. The additional costs associated with complying with state law requirements are reasonably necessary to prevent nuisance and protect beneficial uses identified in the Basin Plan. Further, the loss of, or impacts to, beneficial uses would have a detrimental economic impact. Economic considerations related to costs of compliance are therefore not sufficient, in the Regional Water Board's determination, to justify failing to prevent nuisance and protect beneficial uses

F. Need for Developing Housing within the Region

The Regional Water Board has no evidence regarding the need for developing housing within the region or how the Permittee's discharge will affect that need. The Regional Water Board, however, does not anticipate that these state law requirements will adversely impact the need for housing in the area. The region generally relies on imported water to meet many of its water resource needs. Imported water makes up a vast majority of the region's water supply, with local groundwater, local surface water, and reclaimed water making up the remaining amount. This Order helps address the need for housing by controlling pollutants in discharges, which will improve the quality of local surface and ground water, as well as water available for

recycling and re-use. This in turn may reduce the demand for imported water thereby increasing the region's capacity to support continued housing development. A reliable water supply for future housing development is required by law, and with less imported water available to guarantee this reliability, an increase in local supply is necessary. Therefore, the potential for developing housing in the area will be facilitated by improved water quality.

G. Need to Develop and Use Recycled Water

The State Water Board's Recycled Water Policy requires the Regional Water Boards to encourage the use of recycled water. In addition, as discussed immediately above, a need to develop and use recycled water exists within the region, especially during times of drought. To encourage recycling, the Permittee is required by this Order to continue to explore the feasibility of recycling to maximize the beneficial reuse of tertiary treated effluent.

IX. PUBLIC PARTICIPATION

The Regional Water Board has considered the issuance of WDRs that will serve as an NPDES permit for TIWRP. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs and has encouraged public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board notified the Permittee and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the following: (1) posted at the entrance to the Terminal Island Water Reclamation Plant, 445 Ferry Street, San Pedro, CA 90731, and (2) posted at the San Pedro Library, 931 Gaffey Street, San Pedro, CA 90731.

The public had access to the agenda and any changes in dates and locations through the Regional Water Board's website at: http://www.waterboards.ca.gov/losangeles/.

B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDRs as provided through the notification process. Comments were due either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order, or by email submitted to losangeles@waterboards.ca.gov.

To be fully responded to by staff and considered by the Regional Water Board, the written comments were due at the Regional Water Board office by 5:00 p.m. on May 13, 2015.

C. Public Hearing

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

Date:	June 11, 2015
Time:	9:00 a.m.
Location:	Metropolitan Water District of Southern California Board Room 700 North Alameda Street Los Angeles, California

Interested persons were invited to attend. At the public hearing, the Regional Water Board heard testimony pertinent to the discharge, WDRs, and permit. For accuracy of the record, important testimony was requested in writing.

D. Reconsideration of Waste Discharge Requirements

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

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

For instructions on how to file a petition for review, see
http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml

E. Information and Copying

The ROWD, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (213) 576-6600.

F. Register of Interested Persons

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

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Steven Webb at (213) 576-6793 or at Steven.Webb@waterboards.ca.gov.

ATTACHMENT G – TOXICITY REDUCTION EVALUATION (TRE) WORK PLAN OUTLINE

INFORMATION AND DATA ACQUISITION

I. Operations and Performance Review

A. NPDES permit requirements
   1. Effluent limitations
   2. Special conditions
   3. Monitoring data and compliance history

B. POTW design criteria
   1. Hydraulic loading capacities
   2. Pollutant loading capacities
   3. Biodegradation kinetics calculations/assumptions

C. Influent and effluent conventional pollutant data
   1. Biochemical oxygen demand (BOD5)
   2. Chemical oxygen demand (COD)
   3. Suspended solids (SS)
   4. Ammonia
   5. Residual chlorine
   6. pH

D. Process control data
   1. Primary sedimentation - hydraulic loading capacity and BOD and SS removal
   2. Activated sludge - Food-to-microorganism (F/M) ratio, mean cell residence time (MCRT), mixed liquor suspended solids (MLSS), sludge yield, and BOD and COD removal
   3. Secondary clarification - hydraulic and solids loading capacity, sludge volume index and sludge blanket depth

E. Operations information
   1. Operating logs
   2. Standard operating procedures
   3. Operations and maintenance practices

F. Process side stream characterization data
   1. Sludge processing side streams
   2. Tertiary filter backwash
   3. Cooling water

G. Combined sewer overflow (CSO) bypass data
   1. Frequency
   2. Volume

H. Chemical coagulant usage for wastewater treatment and sludge processing
   1. Polymer
   2. Ferric chloride
   3. Alum

II. POTW Influent and Effluent Characterization Data

A. Toxicity
B. Priority pollutants
C. Hazardous pollutants
D. SARA 313 pollutants,
E. Other chemical-specific monitoring results

III. Sewage Residuals (raw, digested, thickened and dewatered sludge and incinerator ash) Characterization Data

A. EP toxicity
B. Toxicity Characteristic Leaching Procedure (TCLP)
C. Chemical analysis

IV. Industrial Waste Survey (IWS)

A. Information on lUs with categorical standards or local limits and other significant non-categorical lUs
B. Number of lUs
C. Discharge flow
D. Standard Industrial Classification (SIC) code
E. Wastewater flow

1. Types and concentrations of pollutants in the discharge
2. Products manufactured

F. Description of pretreatment facilities and operating practices
G. Annual pretreatment report
H. Schematic of sewer collection system
I. POTW monitoring data

1. Discharge characterization data
2. Spill prevention and control procedures
3. Hazardous waste generation

J. IU self-monitoring data

1. Description of operations
2. Flow measurements
3. Discharge characterization data
4. Notice of sludge loading
5. Compliance schedule (if out of compliance)

K. Technically based local limits compliance reports
L. Waste hauler monitoring data manifests
M. Evidence of POTW treatment interferences (i.e., biological process inhibition)

ATTACHMENT H – BIOSOLIDS AND SLUDGE MANAGEMENT

BIOSOLIDS USE AND DISPOSAL REQUIREMENTS

I. All biosolids generated by the Permittee shall be reused or disposed of in compliance with the applicable portions of:

A. 40 CFR part 503: for biosolids that are land applied, placed in surface disposal sites (dedicated land disposal sites or monofills), or incinerated; 40 CFR part 503 Subpart B (land application) applies to biosolids placed on the land for the purpose of providing nutrients or conditioning the soil for crops or vegetation. 40 CFR part 503 Subpart C (surface disposal) applies to biosolids placed on the land for the purpose of disposal.

B. 40 CFR part 258: for biosolids disposed of in Municipal Solid Waste landfills.

C. 40 CFR part 257: for all biosolids disposal practices not covered under 40 CFR part 258 or 503.

II. The Permittee is responsible for assuring that all biosolids from its facility are used or disposed of in accordance with 40 CFR part 503, whether the Permittee reuses or disposes of the biosolids itself or transfers them to another party for further treatment, reuse, or disposal. The Permittee is responsible for informing subsequent preparers, appliers, or disposers of the requirements they must meet under 40 CFR part 503.

III. Duty to mitigate: The Permittee shall take all reasonable steps to prevent or minimize any biosolids use or disposal which may adversely impact human health or the environment.

IV. No biosolids shall be allowed to enter wetland or other waters of the United States.

V. Biosolids treatment, storage, and use or disposal shall not contaminate groundwater.

VI. Biosolids treatment, storage, and use or disposal shall not create a nuisance such as objectionable odors or flies.

VII. The Permittee shall assure that haulers who transport biosolids off site for further treatment, storage, reuse, or disposal take all necessary measures to keep the biosolids contained.

VIII. If biosolids are stored for over two years from the time they are generated, the Permittee must ensure compliance with all the requirements for surface disposal under 40 CFR part 503 Subpart C, or must submit a written request to USEPA with the information in part 503.20 (b), requesting permission for longer temporary storage.

IX. Sewage sludge containing more than 50 mg/kg PCB's shall be disposed of in accordance with 40 CFR part 761.

X. Any off-site biosolids treatment, storage, use or disposal site operated by the Permittee within Region 4 (Los Angeles Region of RWQCB) that is not subject to its own Waste Discharge Requirements shall have facilities adequate to divert surface runoff from the adjacent area, to protect the site boundaries from erosion, and to prevent any conditions that would cause drainage

from the materials in the disposal site to escape from the site. Adequate protection is defined as protected from at least a 100-year storm and from the highest tidal stage that may occur.

XI. Inspection and Entry: The Regional Water Board, USEPA or an authorized representative thereof, upon the presentation of credentials, shall be allowed by the Permittee, directly or through contractual arrangements with their biosolids management contractors, to:

A. enter upon all premises where biosolids are produced by the Permittee and all premises where Permittee biosolids are further treated, stored, used, or disposed, either by the Permittee or by another party to whom the Permittee transfers the biosolids for further treatment, storage, use, or disposal;

B. have access to and copy any records that must be kept under the conditions of this permit or of 40 CFR part 503, by the Permittee or by another party to whom the Permittee transfers the biosolids for further treatment, storage, use, or disposal; and

C. inspect any facilities, equipment (including monitoring and control equipment), practices, or operations used in the production of biosolids and further treatment, storage, use, or disposal by the Permittee or by another party to whom the Permittee transfers the biosolids for further treatment, storage, use, or disposal.

XII. Monitoring shall be conducted as follows:

A. Biosolids shall be tested for the metals required in part 503.16 (for land application) or part 503.26 (for surface disposal), using the methods in "Test Methods for Evaluating Solids Waste, Physical/Chemical Methods" (SW-:846), as required in 503.8(b}(4}, at the following minimum frequencies:

Volume (dry metric tons/year)	Frequency
0 – 290	once per year
290 – 1500	once per quarter
1500 – 15000	once per 60 days
> 15000	once per month

For accumulated, previously untested biosolids, the Permittee shall develop a representative sampling plan, which addresses the number and location of sampling points, and collect representative samples.

Test results shall be expressed in mg pollutant per kg biosolids on a 100% dry weight basis.

Biosolids to be land applied shall be tested for Organic-N, ammonium-N, and nitrate-N at the frequencies required above.

B. Prior to land application, the Permittee 'shall demonstrate that the biosolids meet Class A or Class B pathogen reduction levels by one of the methods listed in 40 CFR part 503.32. Prior to disposal in a surface disposal site, the Permittee shall demonstrate that the biosolids meet Class B levels or shall ensure that the site is covered at the end of each operating day.

C. For biosolids that are land applied or placed in a surface disposal site, the Permittee shall track and keep records of the operational parameters used to achieve Vector Attraction Reduction requirements in 40 CFR § 503.33 (b).

D. Class 1 facilities (facilities with pretreatment programs or others designated as Class 1 by the Regional Administrator) and Federal facilities with > 5 mgd influent flow shall sample

biosolids for pollutants listed under section 307 (a) of the Act (as required in the pretreatment section of the permit for POTWs with pretreatment programs.) Class 1 facilities and Federal Facilities with> 5 mgd influent flow shall test dioxins/dibenzofurans using a detection limit of < 1 pg/g during their next sampling period if they have not done so within the past 5 years and once per 5 years thereafter.

E. The biosolids shall be tested annually or more frequently if necessary to determine hazardousness in accordance with California Law.

F. If biosolids are placed in a surface disposal site (dedicated land disposal site or monofill), a qualified groundwater scientist shall develop a groundwater monitoring program for the site, or shall certify that the placement of biosolids on the site will not contaminate an aquifer.

G. Biosolids placed in a municipal landfill shall be tested semi-annually by the Paint Filter Test (SW-846, Method 9095) to demonstrate that there are no free liquids.

XIII. The Permittee either directly or through contractual arrangements with their biosolids management contractors shall comply with the following 40 CFR part 503 notification requirements:

A. A reuse/disposal plan shall be submitted to USEPA Region IX Coordinator and, in the absence of other state or regional reporting requirements, to the state permitting agency, prior to the use or disposal of any biosolids from this facility to a new or previously unreported site. The plan shall be submitted by the land applier of the biosolids and shall include, a description and a topographic map of the proposed site(s) for reuse or disposal, names and addresses of the applier(s) and site owner(s), and a list of any state or local permits which must be obtained. For land application sites, the plan shall include a description of the crops or vegetation to be grown, proposed nitrogen loadings to be used for the crops, and a groundwater monitoring plan if one exists.

B. If the Permittee biosolids do not meet 40 CFR § 503.13 Table 3 metals concentration limits, the Permittee must require their land applier to contact the state permitting authority to determine whether bulk biosolids subject to the cumulative pollutant loading rates in 40 CFR § 503.12(b)(2) have been applied to the site since July 20, 1993, and, if so, the cumulative amount of pollutants applied to date, and background concentration, if known. The Permittee shall then notify USEPA Region IX Coordinator of this information.

C. For biosolids that are land applied, the Permittee shall notify the applier in writing of the nitrogen content of the biosolids, and the applier's requirements under 40 CFR part 503, including the requirements that the applier certify that the requirement to obtain information in Subpart A, and that the management practices, site restrictions, and any applicable vector attraction reduction requirements Subpart D have been met. The Permittee shall require the applier to certify at the end of 38 months following application of Class B biosolids that those harvesting restrictions in effect for up to 38 months have been met.

D. If bulk biosolids are shipped to another State or to Indian Lands, the Permittee must send written notice prior to the initial application of bulk biosolids to the permitting authorities in the receiving State or Indian Land (the USEPA Regional Office for the area and the State/Indian authorities).

E. Notification of 40 CFR part 503 non-compliance: The Permittee shall require appliers of their biosolids to notify USEPA Region 9 and their state permitting agency of any noncompliance within 24 hours if the non-compliance may seriously endanger health or the environment. For

other instances of non-compliance, the Permittee shall require appliers of their biosolids to notify USEPA Region 9 and their state permitting agency of the non-compliance in writing within 10 working days of becoming aware of the non-compliance.

XIV. The Permittee shall submit an annual biosolids report to USEPA Region IX Biosolids Coordinator and the Los Angeles Regional Water Quality Control Board by February 19 of each year for the period covering the previous calendar year. The report shall include:

A. The amount of biosolids generated that year, in dry metric tons, and the amount accumulated from previous years.

B. Results of all pollutant monitoring required in the Monitoring Section above.

C. Descriptions of pathogen reduction methods, and vector attraction reduction methods, as required in 40 CFR parts 503.17 and 503.27.

D. Results of any groundwater monitoring or certification by groundwater scientist that the placement of biosolids in a surface disposal site will not contaminate an aquifer.

E. Names and addresses of land appliers and surface disposal site operators, and volumes applied (dry metric tons).

F. Names and addresses of persons who received biosolids for storage, further treatment, disposal in a municipal waste landfill, or for other reuse/disposal methods not covered in N.3, above, and volumes delivered to each.

XV. The Permittee shall require all parties contracted to manage their biosolids to submit an annual biosolids report to USEPA Region IX Biosolids Coordinator by February 19 of each year for the period covering the previous calendar year. The report shall include:

Names and addresses of land appliers and surface disposal site operators, name, location (latitude/longitude), and size (hectares) of site(s), volumes applied/disposed (dry metric tons) and for land application, biosolids loading rates (metric tons per hectare), nitrogen loading rates (kg/ha), dates of applications, crops grown, dates of seeding and harvesting and certifications that the requirement to obtain information in 40 CFR § 503.12(e)(2), management practices in § 503.14 and site restrictions in § 503.32(b)(5) have been met.

ATTACHMENT I – PRETREATMENT REPORTING REQUIREMENTS

The Permittee is required to submit annual Pretreatment Program Compliance Reports (Report) to the Regional Water Board and United States Environmental Protection Agency, Region 9 (USEPA). This Attachment outlines the minimum reporting requirements of the Report. If there is any conflict between requirements stated in this attachment and provisions stated in the Waste Discharge Requirements (WDR), those contained in the WDR will prevail.

I. Pretreatment Requirements

A. The Permittee shall be responsible and liable for the performance of all Control Authority pretreatment requirements contained in 40 CFR part 403, including any subsequent regulatory revisions to part 403. Where part 403 or subsequent revision places mandatory actions upon the Discharger as Control Authority but does not specify a timetable for completion of the actions, the Permittee shall complete the required actions within six months from the issuance date of this permit or the effective date of the part 403 revisions, whichever comes later. For violations of pretreatment requirements, the Permittee shall be subject to enforcement actions, penalties, fines and other remedies by the USEPA or other appropriate parties, as provided in the Act. USEPA may initiate enforcement action against a nondomestic user for noncompliance with applicable standards and requirements as provided in the act.

B. The Permittee shall enforce the requirements promulgated under sections 307(b), 307(c), 307(d) and 402(b) of the Act with timely, appropriate and effective enforcement actions. The Permittee shall cause all nondomestic users subject to federal categorical standards to achieve compliance no later than the date specified in those requirements or, in the case of a new nondomestic user, upon commencement of the discharge.

C. The Permittee shall perform the pretreatment functions as required in 40 CFR part 403 including, but not limited to:

1. Implement the necessary legal authorities as provided in 40 CFR part 403.8(f)(1);

2. Enforce the pretreatment requirements under 40 CFR parts 403.5 and 403.6;

3. Implement the programmatic functions as provided in 40 CFR part 403.8(f)(2); and

4. Provide the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR part 403.8(f)(3).

D. The Permittee shall submit annually a report to USEPA Pacific Southwest Region, and the State describing its pretreatment activities over the previous year. In the event the Permittee is not in compliance with any conditions or requirements of this permit, then the Permittee shall also include the reasons for noncompliance and state how and when the Permittee shall comply with such conditions and requirements. This annual report shall cover operations from January 1 through December 31 and is due on March 1 of each year. The report shall contain, but not be limited to, the following information:

1. A summary of analytical results from representative, flow proportioned, 24-hour composite sampling of the publicly-owned treatment works (POTW) influent and effluent for those pollutants USEPA has identified under section 307(a) of the Act which are known or suspected to be discharged by nondomestic users. This will consist of an annual full priority pollutant scan, with quarterly samples analyzed only for those

pollutants detected in the full scan. The Permittee is not required to sample and analyze for asbestos. Sludge sampling and analysis are covered in the sludge section of this permit. The Permittee shall also provide any influent or effluent monitoring data for nonpriority pollutants which the Permittee believes may be causing or contributing to interference or pass through. Sampling and analysis shall be performed with the techniques prescribed in 40 CFR part 136;

2. A discussion of Upset, Interference or Pass Through incidents, if any, at the treatment plant which the Permittee knows or suspects were caused by nondomestic users of the POTW system. The discussion shall include the reasons why the incidents occurred, the corrective actions taken and, if known, the name and address of the nondomestic user(s) responsible. The discussion shall also include a review of the applicable pollutant limitations to determine whether any additional limitations, or changes to existing requirements, may be necessary to prevent pass through or interference;

3. An updated list of the Permittee's significant industrial users (SIUs) including their names and addresses, and a list of deletions, additions and SIU name changes keyed to the previously submitted list. The Permittee shall provide a brief explanation for each change. The list shall identify the SIUs subject to federal categorical standards by specifying which set(s) of standards are applicable to each SIU. The list shall also indicate which SIUs are subject to local limitations;

4. The Permittee shall characterize the compliance status of each SIU by providing a list or table which includes the following information:

   a. Name of the SIU;
   b. Category, if subject to federal categorical standards;
   c. The type of wastewater treatment or control processes in place;
   d. The number of samples taken by the POTW during the year;
   e. The number of samples taken by the SIU during the year;
   f. For an SIU subject to discharge requirements for total toxic organics, whether all required certifications were provided;
   g. A list of the standards violated during the year. Identify whether the violations were for categorical standards or local limits;
   h. Whether the facility is in significant noncompliance (SNC) as defined at 40 CFR part 403.8(f)(2)(viii) at any time during the year; and
   i. A summary of enforcement or other actions taken during the year to return the SIU to compliance. Describe the type of action, final compliance date, and the amount of fines and penalties collected, if any. Describe any proposed actions for bringing the SIU into compliance.

5. A brief description of any programs the POTW implements to reduce pollutants from nondomestic users that are not classified as SIUs;

6. A brief description of any significant changes in operating the pretreatment program which differ from the previous year including, but not limited to, changes concerning the program's administrative structure, local limits, monitoring program or monitoring frequencies, legal authority, enforcement policy, funding levels, or staffing levels;

7. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases; and

8. A summary of activities to involve and inform the public of the program including a copy of the newspaper notice, if any, required under 40 CFR part 403.8(f)(2)(viii).

II. LOCAL LIMITS EVALUATION

In accordance with 40 CFR part 122.44(j)(2)(ii), the POTW shall provide a written technical evaluation of the need to revise local limits under 40 CFR part 403.5(c)(1) within 180 days of issuance or reissuance of the NPDES permit.

III. SIGNATORY REQUIREMENTS AND REPORT SUBMITTAL

A. Signatory Requirements.

The annual report must be signed by a principal executive officer, ranking elected official or other duly authorized employee if such employee is responsible for the overall operation of the POTW. Any person signing these reports must make the following certification [40 CFR part 403.6(a)(2)(ii)]:

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.

B. Report Submittal.

The Annual Pretreatment Report shall be submitted electronically using the State Water Board's California Integrated Water Quality System (CIWQS) Program website (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS website will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.

A copy of the Annual Report must be sent to USEPA electronically to the following address: R9Pretreatment@epa.gov.