CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

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ORDER R4-2016-XXXX
NPDES NO. CA0001171

WASTE DISCHARGE REQUIREMENTS FOR LONG BEACH GENERATION, LLC LONG BEACH GENERATING STATION

The following Discharger is subject to waste discharge requirements (WDRs) set forth in this Order:

Table 1. Discharger Information

Discharger	Long Beach Generation, LLC
Name of Facility	Long Beach Generating Station
Facility Address	2665 Pier S Lane
	Long Beach, CA 90802
	Los Angeles County

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Groundwater, storm water, and intermittent low-volume wastewater	33.764722º	-118.221389º	Long Beach Inner Harbor

Table 3. Administrative Information

This Order was adopted on:	**February 11, 2016**
This Order shall become effective on:	**April 1, 2016**
This Order shall expire on:	**March 31, 2021**
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDRs 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 U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, Los Angeles Region have classified this discharge as follows:	**Minor discharge**

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 the date indicated above.

Samuel Unger, Executive Officer

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I. FACILITY INFORMATION

Information describing the Long Beach Generating Station (Facility) 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 WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (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 U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an 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 J are also incorporated into this Order.

C. Notification of Interested Parties. The Regional Water Board has notified the Discharger 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. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet.

THEREFORE, IT IS HEREBY ORDERED that this Order supersedes Order R4-2009-0112 except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger is authorized to discharge from the identified facility and outfall 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. Wastes shall be limited to a maximum of 4.3 million gallons per day (MGD) through Discharge Point 001 of commingled wastewater including groundwater from dewatering systems, storm water runoff, and intermittent low volume industrial wastewater from the Facility. The discharge of wastes from accidental spills or other sources is prohibited.

B. Discharges of water, materials, thermal wastes, elevated temperature wastes, toxic wastes, deleterious substances, or wastes other than those authorized by this Order, to a storm drain system, the Long Beach Inner Harbor, or other waters of the State, are prohibited.

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

D. Wastes discharged shall not contain any substances in concentrations toxic to human, animal, plant, or aquatic life.

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

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

G. Any discharge of wastes at any point(s) other than specifically described in this Order is prohibited, and constitutes a violation of the Order.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001

1. Final Effluent Limitations – Discharge Point 001

a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program, Attachment E:

Table 4. Effluent Limitations

Parameter	Units	Effluent Limitations			Performance Goals [2]
		Average Monthly	Maximum Daily	Instantaneous Minimum/Maximum	
Conventional Pollutants					
Biochemical Oxygen Demand (BOD); 5-day @ 20ºC	mg/L	20	30	--	--
	lbs/day [1]	710	1,100	--	--
Oil and Grease	mg/L	10	15	--	--
	lbs/day [1]	360	540	--	--
pH	pH units	--	--	6.5 / 8.5	--
Total Suspended Solids (TSS)	mg/L	50	75	--	--
	lbs/day [1]	1,800	2,700	--	--
Non-Conventional Pollutants					
Settleable Solids	mL/L	0.1	0.3	--	--
Turbidity	NTU	50	75	--	--
Temperature	°F	--	--	86 (Maximum)	--
Ammonia Nitrogen, Total (as N)	mg/L	0.73	1.8	--	--
	lbs/day [1]	26	65	--	--
Total Residual Chlorine	mg/L	--	--	0.1 (Maximum)	--
Chronic Toxicity [3]	Pass or Fail, % Effect	Pass	Pass or % Effect <50	--	--
Priority Pollutants					
Copper, Total Recoverable [4]	µg/L	2.7	6.8	--	--
	lbs/day [1]	0.097	0.24	--	--
Lead, Total Recoverable [4]	µg/L	6.0	16	--	--
	lbs/day [1]	0.22	0.57	--	--

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Parameter	Units	Effluent Limitations			Performance Goals [2]
		Average Monthly	Maximum Daily	Instantaneous Minimum/Maximum	
Nickel, Total Recoverable [8]	µg/L	6.3	15	--	--
	lbs/day [1]	0.24	0.54	--	--
Zinc, Total Recoverable[4]	µg/L	59	158	--	--
	lbs/day [1]	2.1	5.7	--	--
TCDD-Equivalents [8, 9]	µg/L	1.4×10^{-8}	2.8×10^{-8}	--	--
	lbs/day [1]	5.0×10^{-10}	1.0×10^{-9}	--	--
4,4'-DDT [4, 5]	µg/L	0.00059	0.0012	--	--
	lbs/day [1]	2.1×10^{-5}	4.3×10^{-5}	--	--
PCBs [4, 5, 6]	µg/L	0.00017	0.00034	--	--
	lbs/day [1]	6.1×10^{-6}	1.2×10^{-5}	--	--
PAHs					
Benzo(a) Pyrene [4, 5]	µg/L	--	--	--	0.049 [7]
Chrysene [4, 5]	µg/L	--	--	--	0.049 [7]

1. Mass limitations are based on the permitted flow rate of 4.3 MGD applicable at Discharge Point 001 and are calculated as follows:

   Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day.

2. Performance Goals are intended to ensure that effluent concentrations and mass discharges do not exceed levels currently achieved by the permitted facility that are protective of water quality. These performance goals are not considered as limitations or standards for the regulation of the facility. They act as triggers to determine when effluent sediment monitoring is required for this category of pollutants.
3. The maximum daily effluent limitation (MDEL) is exceeded when a toxicity test results in a "fail," and the percent effect is greater than or equal to 0.50. The median monthly effluent limitation (MMEL) is exceeded when the median result (i.e. two out of three) is a "fail."
4. During each reporting period, if effluent monitoring results exceed both a TSS effluent limit and a CTR TMDL-based effluent limit or performance goal for copper, lead, zinc, 4,4'-DDT, total PCBs, benzo(a)pyrene, or chrysene, implementation of the effluent sediment monitoring program is required for that priority pollutant. The effluent sediment monitoring shall begin during the next regular monitoring event following the effluent exceedance. An effluent sediment monitoring result at or below the interim sediment allocations (Monitoring Thresholds) in Table 5 of this Order, demonstrates attainment with the applicable sediment allocation and additional sediment monitoring of the effluent is not required. An effluent sediment monitoring result that exceeds the interim sediment allocation requires additional sediment monitoring of the effluent during discharge but not more frequently than once per year until the three-year average concentration for sediment monitoring results is at or below the interim sediment allocation.
5. Samples analyzed must be unfiltered samples.
6. Total PCBs (polychlorinated biphenyls) means the sum of chlorinated biphenyls whose analytical characteristics resembles those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.
7. CTR human health criteria were not established for total PAHs. Therefore, the performance goals are based on the CTR human health criteria for the individual PAHs; benzo(a)pyrene and chrysene. The benzo(a)pyrene and chrysene were selected because the State's 2010 303(d) List classifies the Los Angeles/Long Beach Inner Harbor as impaired for these PAH compounds.
8. The effluent limitation is based on CTR salt water criteria and calculated using CTR-SIP procedures.
9. TCDD equivalents shall be calculated using the following formula, where the minimum levels (ML), and toxicity equivalency factors (TEFs) are as listed in the Table below. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating TCDD equivalents,

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the Discharger shall set congener concentrations below the minimum levels to zero. USEPA method 1613 may be used to analyze dioxin and furan congeners.

Dioxin-TEQ (TCDD Equivalents) = $\sum(C_x \times TEF_x)$

Where,

C_X = concentration of dioxin or furan congener x

TEF_X = TEF for congener x

Toxicity Equivalency Factors for 2,3,7,8-TCDD Equivalents

Congeners	Toxicity Equivalency Factors
2,3,7,8 - tetra CDD	1.0
1,2,3,7,8 - penta CDD	1.0
1,2,3,4,7,8 - hexa CDD	0.1
1,2,3,6,7,8 - hexa CDD	0.1
1,2,3,7,8,9 - hexa CDD	0.1
1,2,3,4,6,7,8 - hepta CDD	0.01
Octa CDD	0.0001
2,3,7,8 - tetra CDF	0.1
1,2,3,7,8 - penta CDF	0.05
2,3,4,7,8 - penta CDF	0.5
1,2,3,4,7,8 - hexa CDF	0.1
1,2,3,6,7,8 - hexa CDF	0.1
1,2,3,7,8,9 - hexa CDF	0.1
2,3,4,6,7,8 - hexa CDF	0.1
1,2,3,4,6,7,8 - hepta CDFs	0.01
1,2,3,4,7,8,9 - hepta CDFs	0.01
Octa CDF	0.0001

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B. Land Discharge Specifications – Not Applicable

C. Recycling Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

The discharge shall not cause the following in the Long Beach Inner Harbor.

1. The normal ambient pH to fall below 6.5 nor exceed 8.5 units nor vary from normal ambient pH levels by more than 0.2 units.
2. Surface water temperature to rise greater than 5º F above the natural temperature of the receiving waters at any time or place. At no time shall the temperature be raised above 80º F as a result of waste discharged.
3. Water Contact Standards

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

   a. Rolling 30-day Geometric Mean Limits

      i. Total coliform density shall not exceed 1,000/100 ml.

      ii. Fecal coliform density shall not exceed 200/100 ml.

      iii. Enterococcus density shall not exceed 35/100 ml.

b. Single Sample Maximum (SSM)

i. Total coliform density shall not exceed 10,000/100 ml.

ii. Fecal coliform density shall not exceed 400/100 ml.

iii. Enterococcus density shall not exceed 104/100 ml.

iv. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

4. The concentration of dissolved oxygen to fall below 5.0 mg/L at any time, and the median dissolved oxygen concentration for any three consecutive months to be less than 80 percent of the dissolved oxygen content at saturation.

5. Exceedance of the total ammonia (as N) concentrations specified in the Regional Water Board Resolution 2004-022, adopted on March 4, 2004, *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 the Beneficial Use Designations for Protection of "Aquatic Life"*.

6. Increases in natural turbidity attributable to controllable water quality factors to exceed the following limits:

a. Where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20%, and

b. Where natural turbidity is greater than 50 NTU, increase shall not exceed 10%.

7. The presence of visible, floating, suspended or deposited macroscopic particulate matter or foam.

8. Oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the receiving water or on objects in the water.

9. Suspended or settleable materials, chemical substances or pesticides in amounts that cause nuisance or adversely affect any designated beneficial use.

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

11. Accumulation of bottom deposits or aquatic growths.

12. Biostimulatory substances at concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.

13. The presence of substances that result in increases of BOD that adversely affect beneficial uses.

14. Taste or odor-producing substances in concentrations that alter the natural taste, odor, and/or color of fish, shellfish, or other edible aquatic resources; cause nuisance; or adversely affect beneficial uses.

15. Alteration of turbidity, or apparent color beyond present natural background levels.

16. Damage, discolor, or formation of sludge deposits on flood control structures or facilities, or overloading of the design capacity.

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17. Degradation of surface water communities and populations including vertebrate, invertebrate, and plant species.
18. Problems associated with breeding of mosquitoes, gnats, black flies, midges, or other pests.
19. Nuisance, or adversely affect beneficial uses of the receiving water.
20. Violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or State Water Board. 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 or modify this Order in accordance with such standards.

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D.
2. The Discharger 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. This Order may be modified, revoked, reissued, or terminated in accordance with the provisions of 40 C.F.R. sections 122.44, 122.62, 122.63, 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 Discharger 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. The Discharger must 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 programs developed to comply with NPDES permits issued by the Regional Water Board to local agencies.

   c. Discharge of wastes to any point other than specifically described in this Order and permit is prohibited and constitutes a violation thereof.

   d. The Discharger 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, 318, 405, and 423 of the Federal CWA and amendments thereto. These requirements, as they are met, will maintain and protect the beneficial uses of the receiving water.

   e. 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.

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f. Oil or oily material, chemicals, refuse, or other pollutionable 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.

g. 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.

h. After notice and opportunity for a hearing, this Order may be terminated or modified 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 failure to disclose all relevant facts;

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

i. 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.

j. The Discharger shall notify the Regional Water Board not later than 120 days in advance of implementation of any plans to alter production capacity of the product line of the manufacturing, producing or processing facility by more than ten percent. Such notification shall include estimates of proposed production rate, the type of process, and projected effects on effluent quality. The Discharger shall also file with the Regional Water Board a report of waste discharge at least 120 days before making any material change or proposed change in the character, location or volume of the discharge. A new report of waste discharge with the appropriate filing fee shall be included in the submittal.

k. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Regional Water Board as soon as they know or have reason to believe that they have begun or expect to begin to use or manufacture an intermediate or final product or byproduct of any toxic pollutant that was not reported on their application.

l. In the event of any change in name, ownership, or control of these waste disposal facilities, the discharger shall notify this 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.

m. The Water Code provides that any person who violates a waste discharge requirement or a provision of the Water Code 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 combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalty may be applied for each kind of violation.

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n. The discharge of any product registered under the Federal Insecticide, Fungicide, and Rodenticide Act to any waste stream which may ultimately be released to waters of the United States, is prohibited unless specifically authorized elsewhere in this permit or another NPDES permit. This requirement is not applicable to products used for lawn and agricultural purposes.

o. 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 permit.

p. The Discharger shall notify the Executive Officer in writing no later than 6 months prior to the 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.

q. 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 Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

r. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, Average Monthly Effluent Limitation (AMEL), Maximum Daily Effluent Limitation (MDEL), instantaneous, or receiving water limitation of this Order, the Discharger shall notify the Regional Water Board by telephone (213)-576-6600 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing 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. Other noncompliance requires written notification as above at the time of the normal monitoring report.

s. 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. (Water Code section 1211.)

B. Monitoring and Reporting Program (MRP) Requirements

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

C. Special Provisions

1. Reopener Provisions

a. This Order may be reopened to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge through a more

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comprehensive monitoring program included as part of this Order and based on the results of the RPA.

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

c. This Order may be reopened and modified, in accordance with the provisions set forth in 40 C.F.R. parts 122 and 124, to include requirements for the implementation of the watershed management approach or to include new MLs.

d. This Order may be reopened and modified to revise effluent limitations as a result of future Basin Plan Amendments, such as an update of an objective or the adoption of a TMDL for the Long Beach Inner Harbor.

e. This Order may be reopened upon submission by the Discharger of adequate information, as determined by the Regional Water Board, to provide for dilution credits or a mixing zone, as may be appropriate.

f. 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, monitoring requirements on 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.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan.**

The Discharger shall submit to the Regional Water Board an Initial Investigation TRE workplan (1-2 pages) within 90 days of the effective date of this permit. This plan shall describe the steps the permittee intends to follow in the event that toxicity is detected. See section V of the Monitoring and Reporting Program (Attachment E) for an overview of TRE requirements.

b. **Monitoring Thresholds based on Sediment Interim Concentration-based Allocations in the Harbor Toxics TMDL for Sediment Monitoring of Effluent.**

The monitoring thresholds in the table below are based on the TMDL's interim sediment allocations for copper, lead, zinc, DDT, PAHs, and PCBs. Attainment with these thresholds shall be demonstrated in accordance with Footnote 4 to Table 4 (Effluent Limitations) of this Order. Regardless of these monitoring thresholds, the Discharger shall ensure that effluent concentrations and mass discharges do not exceed levels that can be attained by performance of the Facility's treatment technologies existing at the time of permit issuance, reissuance, or modification.

As specified in Section IV.A 2 of the MRP, the Discharger is required to monitor sediment (TSS in effluent) directly, at a minimum, once during the five year permit term if there is a discharge from the Facility during said term.

Table 5. Monitoring Thresholds

Pollutant	Monitoring Thresholds (mg/kg sediment)
Copper, Total Recoverable	142.3

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Pollutant	Monitoring Thresholds (mg/kg sediment)
Lead, Total Recoverable	50.4
Zinc, Total Recoverable	240.6
Polynuclear Aromatic Hydrocarbons (PAHs)	4.58
DDT	0.07
Polychlorinated Biphenyls (PCBs)	0.06

c. **Harbor Toxics TMDL Water Column, Sediment, and Fish Tissue Monitoring for the Greater Los Angeles and Long Beach Harbor Waters Compliance Monitoring Program.**

As defined in the Harbor Toxics TMDL, the Discharger is a "responsible party" because it is an "Individual Industrial Permittee". As such, either individually or with a collaborating group, the Discharger shall develop a monitoring and reporting plan (Monitoring Plan) and quality assurance project plan (QAPP) for the water column, sediment, and fish tissue in the Greater Los Angeles and Long Beach Harbor. These plans shall follow the "TMDL Element - Monitoring Plan" provisions in Attachment A to Resolution No. R11-008. The TMDL requires that the Monitoring Plan and QAPP shall be submitted 20 months after the effective date (March 23, 2012) of the TMDL for public review and subsequent Executive Officer approval. Since the effective date of this Order exceeds the deadline for the Monitoring Plan and QAPP, the Discharger shall join a group already formed or develop a site specific monitoring plan. If the Discharger decides to join a group already formed, the Discharge shall notify the Regional Water Board within 90 days of the effective date of this Order. If the Discharger decides to develop a site specific Monitoring Plan with a QAPP, the Discharger shall notify the Regional Water Board within 90 days of the effective date of this Order and submit the plans to the Regional Water Board within 12 months of the effective date of this Order for public comment and the Regional Water Board approval. The Discharger shall begin monitoring 6 months after the Monitoring Plan and QAPP are approved by the Executive Officer, unless otherwise directed by the Executive Officer. The compliance monitoring program shall include water column, sediment, and fish tissue monitoring. The Discharger shall submit the annual monitoring report to the Regional Water Board by the specified date in the proposed Monitoring Plan. The annual monitoring report shall indicate compliance and non-compliance with waste load and/or load allocations.

The Compliance Monitoring Program shall include:

i. **Water Column Monitoring.** At the Station ID in Table 6, parameters in the water column shall be monitored three times per year, during two wet weather events and one dry weather event. During wet weather events, water column samples shall be collected at several depths. Wet weather monitoring must include the first large storm event of the wet season. Sampling shall be designed to collect sufficient volumes of TSS for analyses of bulk sediment priority pollutants in Table 6 below.

ii. **Sediment Monitoring.** Sediment quality objective evaluation monitoring, as detailed in SQO Part 1 (sediment triad sampling), shall be performed once per five years in coordination with the Biological Baseline and Bight regional

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monitoring program, if possible. It shall include the full chemical suite, two sediment toxicity tests, and four benthic indices as specified in SQO Part 1. At the Station ID in the table below, and between sediment triad monitoring events, sediment chemistry parameters shall be monitored once per five years.

Table 6. Sediment Chemistry Monitoring Requirements

Water Body Name	Station ID	Station Location	Sample Media and Parameters	
			Water Column/TSS	Sediment
Long Beach Inner Harbor	13	Back Channel between Turning Basin and West Basin	Temperature, Dissolved Oxygen, pH, Salinity, TSS, Copper, Lead, Zinc, PCBs, DDT	Copper, Lead, Zinc, PCBs, DDT

1. Based on Harbor Toxics TMDL (Attachment A to Resolution No. R11-008, page 25)

iii. **Fish Tissue Monitoring.** In Long Beach/Los Angeles Inner Harbor, fish tissue shall be monitored once per two years for chlordane, dieldrin, toxaphene, DDT, and PCBs. The three target species shall include white croaker, a sport fish, and a prey fish.

3. Best Management Practices and Pollution Prevention

a. **Storm Water Pollution Prevention, Best Management Practices, and Spill Contingency Plans.**

The Discharger shall submit, within 90 days of the effective date of this Order:

i. A updated Storm Water Pollution Prevention Plan (SWPPP) that describes site-specific management practices for minimizing contamination of storm water runoff and for preventing contaminated storm water runoff from being discharged directly to waters of the State. The SWPPP shall be developed in accordance with the requirements in Attachment G.

ii. A updated Best Management Practices Plan (BMPP), that includes site-specific plans and procedures implemented and/or to be implemented to prevent hazardous waste/material from being discharged to waters of the State. The BMPs shall be consistent with the general guidance contained in the *USEPA Guidance Manual for Developing Best Management Practices* (BMPs) (EPA-833-B-93-004). In particular, a risk assessment of each area identified by the Discharger shall be performed to determine the potential for hazardous or toxic waste/material discharge to surface waters.

iii. A Spill Control Plan (SCP), that describes the preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events.

Each plan shall cover all areas of the Facility and shall include an updated drainage map for the Facility. The Discharger shall identify on a map of appropriate scale the areas that contribute runoff to the permitted discharge point; describe the activities in each area and the potential for contamination of storm water runoff and the discharge of hazardous waste/material; and address the feasibility of containment and/or treatment of storm water.

The Discharger shall implement the SWPPP, BMPP, and SCP (or SPCC) within 10 days of the approval by the Executive Officer or no later than 90 days after submission to the Regional Water Board, whichever comes first. The plans shall be

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reviewed annually and revised, if necessary, at the same time. Updated information shall be submitted to the Regional Water Board within 30 days of revisions.

4. Construction, Operation and Maintenance Specifications

a. The Discharger shall at all times properly operate and maintain all facilities and systems installed or used to achieve compliance with this Order.

5. Other Special Provisions – Not Applicable

6. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

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

A. Single Constituent Effluent Limitation

If the concentration of the pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (see Reporting Requirement I.G. of the MRP), then the Discharger is out of compliance.

B. Effluent Limitations Expressed as a Sum of Several Constituents

If the sum of the individual pollutant concentrations is greater than the effluent limitation, then the Discharger is out of compliance. In calculating the sum of the concentrations of a group of pollutants, consider constituents reported as ND or DNQ to have concentrations equal to zero, provided that the applicable ML is used.

C. Effluent Limitations Expressed as a Median

In determining compliance with a median limitation, the analytical results in a set of data will be arranged in order of magnitude (either increasing or decreasing order); and

1. If the number of measurements (n) is odd, then the median will be calculated as = $X_{(n+1)/2}$, or

2. If the number of measurements (n) is even, then the median will be calculated as= $[X_{n/2} + X_{(n/2)+1}]/2$ (i.e. the midpoint between the n/2 and n/2+1 data points).

D. Multiple Sample Data

When determining compliance with an AMEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

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

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

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E. Average Monthly Effluent Limitation (AMEL)

If the average (or when applicable, the median determined by subsection 2 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 Discharger 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). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. For anyone calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

In determining compliance with the AMEL, the following provisions shall also apply to all constituents:

1. If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, does not exceed the AMEL for that constituent, the Discharger has demonstrated compliance with the AMEL for that month;

2. If the analytical result of a single sample monitored monthly, quarterly, semiannually, or annually, exceeds the AMEL for any constituent, the Discharger shall collect four additional samples at approximately equal intervals during the month. All five analytical results shall be reported in the monitoring report for that month, or 45 days after results for the additional samples were received, whichever is later.

   When all sample results are greater than or equal to the reported Minimum Level (see Reporting Requirement I.G. of the MRP), the numerical average of the analytical results of these five samples will be used for compliance determination.

   When one or more sample results are reported as "Not-Detected (ND)" or "Detected, but Not Quantified (DNQ)" (see Reporting Requirement I.G. of the MRP), the median value of these four samples shall be used for compliance determination. If one or both of the middle values is NO or DNQ, the median shall be the lower of the two middle values.

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

4. If only one sample was obtained for the month or more than a monthly period and the result exceeds the AMEL; then the Discharger is in violation of the AMEL.

F. Maximum Daily Effluent Limitations (MDEL)

If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

G. Instantaneous Minimum Effluent Limitation

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, a violation will be flagged and the discharger 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 taken 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).

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H. 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 discharger 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 taken 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.

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 Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of noncompliance 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 taken 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 at the discharge IWC using the Test of Significant Toxicity (TST) 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. The null hypothesis (Ho) for the TST 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.

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 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 up to three independent chronic toxicity tests, conducted within the same calendar month and analyzed using the TST approach, results in “Fail”. 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 are required when one toxicity test results in “Fail”.

K. Mass and Concentration Limitations

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

L. Bacterial Standards and Analyses

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

$$\text{Geometric Mean} = (C_1 \times C2 \times \ldots \times C_n)^{1/n}$$

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. For

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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 method used for each analysis shall be reported with the results of the analysis.

Detection methods used for coliforms (total and fecal) and *Enterococcus* shall be those presented in Table 1A of Part 136 (revised May 18, 2012), unless alternate methods have been approved by USEPA pursuant to Part 136 or improved methods have been determined by the Executive Officer and/or USEPA.

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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.

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 taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

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

Detected, but Not Quantified (DNQ)
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.

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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 U.S. EPA 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 Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters
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).

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Median Monthly Effluent Limitation (MMEL)
The MMEL is, for the purposes of this Policy, an effluent limit based on the median results of three independent toxicity tests, conducted within the same calendar month, and analyzed using the TST. The MMEL is exceeded when the median result (i.e. two out of three) is a "fail."

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 40 C.F.R. 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 Water Code 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 Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State 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 Discharger for reporting and compliance determination from the ML's included in this Order, including an additional factor if applicable as discussed herein. The ML's 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

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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.

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

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ATTACHMENT B – MAP

Long Beach Generation, LLC

Long Beach Generating Station

NPDES Permit No. CA0001171

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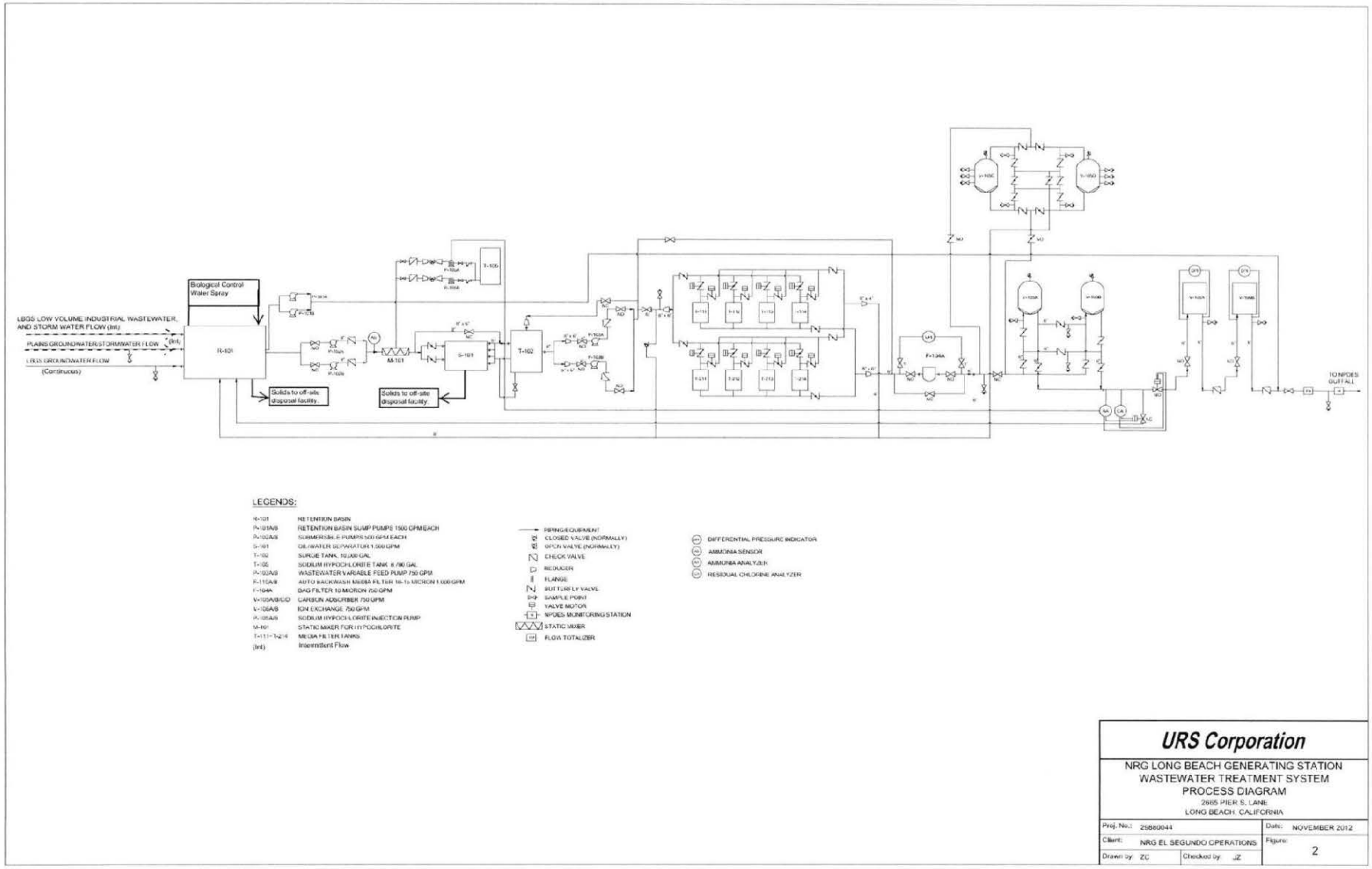
ATTACHMENT C – FLOW SCHEMATIC



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ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

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

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

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

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

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

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, U.S. EPA, 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. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i); Wat. Code, §§ 13267, 13383):

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1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(i); 40 C.F.R. § 122.41(i)(1); Wat. Code, §§ 13267, 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. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(2); Wat. Code, §§ 13267, 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. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, §§ 13267, 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 Water Code, any substances or parameters at any location. (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

G. Bypass

1. Definitions
   a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
   b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)
3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):
   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and
   c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)
4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

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5. Notice

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

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

H. Upset

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

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

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

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

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

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

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

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

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

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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 Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. §§ 122.41(l)(3), 122.61.)

III. STANDARD PROVISIONS – MONITORING

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

B. Monitoring results must be conducted according to test procedures approved under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. subchapters N or O. In the case of pollutants for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants. (40 C.F.R. §§ 122.41(j)(4), 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

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

B. Records of monitoring information shall include:

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

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

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Regional Water Board, State Water Board, or U.S. EPA may request to determine whether cause exists for modifying, revoking

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and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, §§ 13267, 13383.)

B. Signatory and Certification Requirements

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

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

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

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

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

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

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

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

   "I certify under penalty of law that this document and all attachments were prepared

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

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(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 C.F.R. § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. 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 C.F.R. § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
   a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
   b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

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F. Planned Changes

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

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)

   The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1). (40 C.F.R. § 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R.§ 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

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

H. Other Noncompliance

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

I. Other Information

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

VI. STANDARD PROVISIONS – ENFORCEMENT

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

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

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

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

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

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

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

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

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

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

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

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

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP NO. 5764)

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP) NO. 5764

Section 308 of the federal Clean Water Act (CWA) and sections 122.41(h), (j)-(*l*), 122.44(i), and 122.48 of title 40 of the Code of Federal Regulations (40 C.F.R.) require that all NPDES permits specify monitoring and reporting requirements. Water Code 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 the federal and California laws and/or regulations.

I. GENERAL MONITORING PROVISIONS

A. An effluent sampling station shall be established for the points of discharge (Discharge Point 001 [Latitude 33.764722º North, Longitude 118.221389º West]) and shall be located where representative samples of that effluent can be obtained.

B. Effluent samples shall be taken downstream of any addition to treatment works and prior to mixing with the receiving waters.

C. The Regional Water Board shall be notified in writing of any change in the sampling stations once established or in the methods for determining the quantities of pollutants in the individual waste streams.

D. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. sections 136.3, 136.4, and 136.5 (revised May 18, 2012); or, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board.

E. For any analyses performed for which no procedure is specified in the 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 Department of Public Health or approved by the Executive Officer and in accordance with current USEPA guideline procedures or as specified in this MRP".

G. The monitoring reports shall specify the analytical method used, the Method Detection Limit (MDL), and the Minimum Level (ML) for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported by one of the following methods, as appropriate:

1. An actual numerical value for sample results greater than or equal to the ML; or
2. "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML; or,
3. "Not-Detected (ND)" for sample results less than the laboratory's MDL with the MDL indicated for the analytical method used.

Analytical data reported as "less than" for the purpose of reporting compliance with permit limitations shall be the same or lower than the permit limit(s) established for the given parameter.

Current MLs (Attachment H) are those published by the State Water Board in the Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, February 24, 2005.

H. The MLs employed for effluent analyses to determine compliance with effluent limitations shall be lower than the effluent limitations established in this order for a given parameter as

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per the sufficiently sensitive regulations at 40 C.F.R. section 122.44(i)(1)(iv). If the ML value is not below the effluent limitation, then the lowest ML value and its associated analytical method shall be selected for compliance purposes. At least once a year, the Discharger shall submit a list of the analytical methods employed for each test and associated laboratory QA/QC procedures.

I. The MLs employed for effluent analyses not associated with determining compliance with effluent limitations in this order shall be lower than the lowest applicable water quality objective, for a given parameter as per the sufficiently sensitive regulations at 40 C.F.R. section 122.21(e)(3). Water quality objectives for parameters may be found in Chapter 3 of the Basin Plan and the CTR (40 C.F.R. section 131.38). If the ML value is not below the water quality objective, then the lowest ML value and its associated analytical method shall be selected for compliance purposes. At least once a year, the Discharger shall submit a list of the analytical methods employed for each test, the associated laboratory QA/QC procedures, reporting levels (RLs), and method detection limits (MDLs).

The Regional Water Board, in consultation with the State Water Board Quality Assurance Program, shall establish a ML that is not contained in Attachment H to be included in the Discharger's permit in any of the following situations:

1. When the pollutant under consideration is not included in Attachment H;
2. When the Discharger and Regional Water Board agree to include in the permit a test method that is more sensitive than that specified in part 136 (revised May 18, 2012);
3. When the Discharger agrees to use an ML that is lower than that listed in Attachment H;
4. When the Discharger demonstrates that the calibration standard matrix is sufficiently different from that used to establish the ML in Attachment H, and proposes an appropriate ML for their matrix; or,
5. When the Discharger uses a method whose quantification practices are not consistent with the definition of an ML. Examples of such methods are the 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 Discharger, 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.

J. Water/wastewater samples must be analyzed within allowable holding time limits as specified in section 136.3. All QA/QC items must be run on the same dates the samples were actually analyzed, and the results shall be reported in the Regional Water Board format, when it becomes available, and submitted with the laboratory reports. Proper chain of custody procedures must be followed, and a copy of the chain of custody shall be submitted with the report.

K. All analyses shall be accompanied by the chain of custody, including but not limited to data and time of sampling, sample identification, and name of person who performed sampling, date of analysis, name of person who performed analysis, QA/QC data, method detection limits, analytical methods, copy of laboratory certification, and a perjury statement executed by the person responsible for the laboratory.

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

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M. The Discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. Unless otherwise specified in the analytical method, duplicate samples must be analyzed at a frequency of 5% (1 in 20 samples) with at least one if there is fewer than 20 samples in a batch. A batch is defined as a single analytical run encompassing no more than 24 hours from start to finish. A similar frequency shall be maintained for analyzing spiked samples.

N. Field analyses with short sample holding time such as pH, total residual chlorine, and temperature, may be performed using properly calibrated and maintained portable instruments by trained personnel acting on the Discharger's behalf, using methods in accordance with 40 C.F.R. part 136. All field instruments must be calibrated per manufacturer's instructions. A manual containing the standard operating procedures for all field analyses, including records of personnel proficiency training, instruments calibration and maintenance, and quality control procedures shall be maintained onsite, and shall be available for inspection by Regional Water Board staff. Information including instrument calibration, time of sample collection, time of analysis, name of analyst, quality assurance/quality control data, and measurement values shall be clearly documented during each field analysis and submitted to the Regional Water Board as part of the corresponding regular monitoring report.

O. When requested by the Regional Water Board or U.S. EPA, the Discharger will participate in the NPDES discharge monitoring report QA performance study. The Discharger must have a success rate equal to or greater than 80%.

P. For parameters that both average monthly and daily maximum limits are specified and the monitoring frequency is less than four times a month, the following shall apply. If an analytical result is greater than the average monthly limit, the Discharger shall collect four additional samples at approximately equal intervals during the month, until compliance with the average monthly limit has been demonstrated. All five analytical results shall be reported in the monitoring report for that month, or 45 days after results for the additional samples were received, whichever is later. In the event of noncompliance with an average monthly effluent limitation, the sampling frequency for that constituent shall be increased to weekly and shall continue at this level until compliance with the average monthly effluent limitation has been demonstrated. The Discharger shall provide for the approval of the Executive Officer a program to ensure future compliance with the average monthly limit.

Q. In the event wastes are transported to a different disposal site during the reporting period, the following shall be reported in the monitoring report:

1. Types of wastes and quantity of each type;
2. Name and address for each hauler of wastes (or method of transport if other than by hauling); and
3. Location of the final point(s) of disposal for each type of waste.

If no wastes are transported off-site during the reporting period, a statement to that effect shall be submitted.

R. Each monitoring report shall state whether or not there was any change in the discharge as described in the Order during the reporting period.

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II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	EFF-001	Effluent shall be sampled at a location downstream of any treatment process and upstream of the discharge point into the Back Channel of Long Beach Inner Harbor, where representative samples of the effluent can be obtained.
--	RSW-001	At a location 50 feet from the discharge point.

III. INFLUENT MONITORING REQUIREMENTS – NOT APPLICABLE

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor the combined discharge at Monitoring Location EFF-001 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.

   If a bypass occurs, monitoring is required for the parameters listed in Table E-2 except total residual chlorine, MBAS, chronic toxicity, TCDD equivalents, and radioactivity. During prolonged bypass discharges, only one sample per week is required. In each bypass event, the Discharger must collect sufficient bypass sample to provide an adequate amount of effluent sediments (suspended solids) for sediment analyses. If effluent sediment monitoring is triggered by exceedances as described in Footnote 5 of Table E-2, an effluent sediment monitoring on the bypass sediments must be conducted.

Table E-2. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Meter	Continuous[1]	--
Temperature	^{o}F	Meter	Continuous[1]	[3]
pH	standard units	Grab or Meter	1/Day	[3]
Total Residual Chlorine	mg/L	Grab or Meter	1/Day	[3]
Biochemical Oxygen Demand (BOD_5; 5-day 20 deg. C)[2]	mg/L, lbs/day	Grab	1/Month	[3]
Oil and Grease[2]	mg/L, lbs/day	Grab	1/Month	[3]
Total Suspended Solids[2]	mg/L, lbs/day	Grab	1/Month	[3]
Turbidity	NTU	Grab	1/Month	[3]
Settleable Solids	mL/L	Grab	1/Month	[3]
Salinity	parts per thousand (ppt)	Grab	1/Quarter	[3]
Methylene Blue Active Substances (MBAS)[2]	mg/L	Grab	1/Quarter	[3]

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Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Methyl Tertiary Butyl Ether (MTBE)[2]	µg/L	Grab	1/Quarter	[3]
Total Petroleum Hydrocarbons (TPH) as Gasoline (C_4-C_{12}) [2]	µg/L	Grab	1/Quarter	EPA Method 503.1 or 8015B
TPH as Diesel (C_{13}-C_{22})[2]	µg/L	Grab	1/Quarter	EPA Method 503.1, 8015B, or 8270
TPH as Kerosene (C_{23+})[2]	µg/L	Grab	1/Quarter	EPA Method 503.1, 8015B, or 8270
Total Coliform	MPN/100 mL	Grab	5/Quarter [11]	[3]
Fecal Coliform	MPN/100 mL	Grab	5/Quarter [11]	[3]
Enterococcus	MPN/100 mL	Grab	5/Quarter [11]	[3]
Chronic Toxicity [4]	Pass or Fail, % effect	Grab	1/Quarter	[3]
Ammonia Nitrogen, Total (as N)[2]	mg/L, lbs/day	Grab	1/Quarter	[3]
Copper, Total Recoverable [2,5]	µg/L, lbs/day	Grab	1/Month	[3]
Lead, Total Recoverable [2, 5]	µg/L, lbs/day	Grab	1/Month	[3]
Nickel, Total Recoverable [2]	µg/L, lbs/day	Grab	1/Month	[3]
Zinc, Total Recoverable [2, 5]	µg/L, lbs/day	Grab	1/Month	[3]
Benzo(a) Pyrene[5]	µg/L	Grab	1/Month	[3, 6]
Chrysene[5]	µg/L	Grab	1/Month	[3, 6]
4,4'-DDT [2, 5]	µg/L, lbs/day	Grab	1/Month	[3, 6]
PCBs, Total [2, 5, 7]	µg/L, lbs/day	Grab	1/Month	[3, 6]
TCDD-Equivalents [2, 8]	µg/L, lbs/day	Grab	2/Year	[3]
Remaining Priority Pollutants [2, 9]	µg/L	Grab	1/Year	[3]
Radioactivity[10] (Including gross alpha, gross beta, combined radium-226 and radium-228, tritium, strontium-90 and uranium)	pCi/L	Grab	1/Year	[3]

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1. When continuous monitoring is required, the total daily flow (24-hour basis) shall be reported. For any continuously monitored parameter, the Discharger shall report the minimum, average, and maximum value for each calendar day.
2. The mass emission (lbs/day) for the discharge shall be calculated and reported using the measured concentration and the actual flow rate measured at the time of discharge, using the formula:

   $M = 8.34 \times C \times Q$

   where: M = mass discharge for a pollutant (lbs/day)
   C = Reported concentration for a pollutant (mg/L)
   Q = actual discharge flow rate (MGD)
3. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136; for priority pollutants, the methods must meet the lowest MLs specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.
4. Refer to section V, Whole Effluent Toxicity Testing Requirements. "Pass" or "Fail" for Median Monthly Effluent Limitation (MMEL). "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL). 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, exactly three independent toxicity tests are required when one toxicity test results in "Fail".

5. During each reporting period, if effluent monitoring results exceed both a TSS effluent limit and a CTR TMDL-based effluent limit or performance goal for copper, lead, zinc, 4,4'-DDT, total PCBs, benzo(a)pyrene, or chrysene, implementation of the effluent sediment monitoring program is required for that priority pollutant. The effluent sediment monitoring shall begin during the next regular monitoring event following the effluent exceedance. An effluent sediment monitoring result at or below the interim sediment allocations (Monitoring Thresholds) in Table 5 of this Order, demonstrates attainment with the applicable sediment allocation and additional sediment monitoring of the effluent is not required. An effluent sediment monitoring result that exceeds the interim sediment allocation requires additional sediment monitoring of the effluent during discharge but not more frequently than once per year until the three-year average concentration for sediment monitoring results is at or below the interim sediment allocation.

6. Samples analyzed must be unfiltered samples.

7. Total PCBs (polychlorinated biphenyls) means the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-10166, Arclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1245, Aroclor-1254, and Aroclor-1260.

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

Dioxin-TEQ (TCDD equivalents) = $\Sigma(C_x \times TEF_x)$
where: C_x = concentration of dioxin or furan congener x
TEF_x= TEF for congener x

Congeners	Minimum Levels (pg/L)	Toxicity Equivalence Factor (TEF)
2,3,7,8 - tetra CDD	10	1.0
1,2,3,7,8 - penta CDD	50	1.0
1,2,3,4,7,8 - hexa CDD	50	0.1
1,2,3,6,7,8 - hexa CDD	50	0.1
1,2,3,7,8,9 - hexa CDD	50	0.1
1,2,3,4,6,7,8 - hepta CDD	50	0.01
Octa CDD	100	0.0001
2,3,7,8 - tetra CDF	10	0.1
1,2,3,7,8 - penta CDF	50	0.05
2,3,4,7,8 - penta CDF	50	0.5
1,2,3,4,7,8 - hexa CDF	50	0.1
1,2,3,6,7,8 - hexa CDF	50	0.1
1,2,3,7,8,9 - hexa CDF	50	0.1
2,3,4,6,7,8 - hexa CDF	50	0.1
1,2,3,4,6,7,8 - hepta CDFs	50	0.01
1,2,3,4,7,8,9 - hepta CDFs	50	0.01
Octa CDF	100	0.0001

9. Priority Pollutants as defined by the CTR and listed in Attachment I of this Order.

10. Analyze these radiochemicals by the following USEPA methods:

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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 905.0 for strontium-90; Method 908.0 for uranium.

Analysis for uranium shall be conducted only if gross alpha results for the same sample exceed 15 pCi/L, or beta greater than 50 pCi/L. If the uranium result is greater than 20 pCi/L, analysis for radium-226 & 228 shall be conducted. If the combined radium-226 & 228 exceeds 5 pCi/L, analyze for tritium and strontium-90.

11. Five (5) samples should be taken equally spaced over a 30-day period with the first sample taken in the monitoring month (February, May, August, or November) for the required quarter. The results will provide sufficient data for the calculation of the geometric mean values.

2. Effluent Sediment Monitoring at Monitoring Location EFF-001

Effluent sediment monitoring is only required during years in which any exceedance occurs as described in Footnote 1 to the following table. If effluent sediment monitoring is not triggered by an exceedance, effluent sediment monitoring must be conducted as described here at least once during the permit term.

The Discharger must sample the discharge at the discharge points following final treatment, prior to the discharge entering the receiving water. The Discharger must collect sufficient effluent sample to provide an adequate amount of effluent sediments (suspended solids) for sediment analyses.

Table E-3. Sediment Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Method
Copper, Total Recoverable	mg/kg	Grab	1/Year[1]	[2]
Lead, Total Recoverable	mg/kg	Grab	1/Year[1]	[2]
Zinc, Total Recoverable	mg/kg	Grab	1/Year[1]	[2]
DDT[3]	mg/kg	Grab	1/Year[1]	[2]
PAHs[4]	mg/kg	Grab	1/Year[1]	[2]
PCBs[5]	mg/kg	Grab	1/Year[1]	[2]

1. Annual monitoring is required when it is triggered by an exceedance as specified in Footnote to Table 4 of this Order. If monitoring is not triggered because of an exceedance, sediment monitoring must occur at least once during the five year permit term.
2. Pollutants shall be analyzed in accordance with USEPA or ASTM methodologies where such methods exist. Where no USEPA or ASTM methods exist, the State Water Board or Regional Water Board shall approve the use of other methods. Analytical tests shall be conducted by laboratories certified by the State Water Board in accordance with Water Code section 13176.
3. The State Water Board *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality*, August 25, 2009, (known as Sediment Quality Plan, Attachment A) listed chemical analytes needed to characterize sediment contamination exposure and effect. According to Sediment Quality Plan, DDTs shall mean the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD and 2,4'DDD.
4. According to the Sediment Quality Plan, total PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthene, anthracene, biphenyl, naphthalene, 2,6-dimethylnaphthalene, fuorene, 1-methylnaphthalene, 2-methylnaphthalene, 1-methylphenanthrene, phenanthrene, benzo(a)anthracene, benzo(a)pyrene, benzo(e)pyrene, chrysene, dibenz(a,h)anthracene, fluoranthene, perylene, and pyrene.
5. According to the Sediment Quality Plan, total PCBs (polychlorinated biphenyls) shall mean the sum of the following PCB congeners: 2,4'-dichlorobiphenyl, 2,2',5-trichlorobiphenyl, 2,4,4'-trichlorobiphenyl, 2,2',3,5'-tetrachlorobiphenyl, 2,2',5,5'-tetrachlorobiphenyl, 2,3',4,4'-

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tetrachlorobiphenyl, 2,2',4,5,5'- pentachlorobiphenyl, 2,3,3',4,4'-pentachlorobiphenyl, 2,3',4,4',5-pentachlorobiphenyl, 2,2',3,3',4,4'-hexachlorobiphenyl, 2,2',3,4,4',5'-hexachlorobiphenyl, 2,2',4,4',5,5'-hexachlorobiphenyl, 2,2',3,3',4,4',5-heptachlorobiphenyl, 2,2',3,4,4',5,5'-heptachlorobiphenyl, 2,2',3,4',5,5',6-heptachlorobiphenyl, 2,2',3,3',4,4',5,6-octachlorobiphenyl, 2,2',3,3',4,4',5,5',6-nonachlorobiphenyl, and decachlorobiphenyl.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Chronic Toxicity

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

The chronic toxicity IWC for this discharge at Discharge Point 001 is 100 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. For the receiving water, sufficient sample volume shall also be collected 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 and Estuarine Species and Test Methods

If effluent samples are collected from outfalls discharging to receiving waters with salinity ≥1 ppt, the Discharger 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 shall be used to increase sample salinity. 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 three monthly monitorings. For each monthly sampling event, the Discharger shall collect a single effluent sample and concurrently conduct three toxicity tests using the fish, an invertebrate, and the alga species previously referenced. The species that exhibits the highest "Percent Effect" at the discharge IWC during species sensitivity screening shall be used for the routine quarterly monitoring.

Species sensitivity rescreening is required every 24 months. The Discharger shall rescreen with the fish, an invertebrate (the purple sea urchin, the sand dollar, or the red abalone), 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

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species is the most sensitive then the rescreening does not need to include more than one suit of tests. If a different species is the most sensitive or if there is ambiguity, then the Discharger shall proceed with suites of screening tests for a minimum of three (monthly testing), but not to exceed five suites.

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" and "Percent Effect" from a single-effluent concentration chronic toxicity test at the discharge IWC using the Test of Significant Toxicity (TST) 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. The null hypothesis (Ho) for the TST 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.

b. The median monthly effluent limit (MMEL) for chronic toxicity only applies when there is a discharge more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests are required 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, then the Discharger must re-sample and re-test within 14 days.

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. Reference toxicant tests and effluent toxicity tests shall be conducted using the same test conditions (e.g., same test duration, etc.). Monthly reference toxicant testing is sufficient.

f. All reference toxicant test results should be reviewed and reported according to EPA guidance on the evaluation of concentration-response relationships found in *Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing* (40 C.F.R. part 136) (EPA 821-B-00-004, 2000).

g. The Discharger 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 Initial Investigation TRE Work Plan**

The Discharger shall prepare or update and submit a generic Initial Investigation TRE Work Plan (1-2 pages) within **90 days** of the permit effective date, to be ready to respond to toxicity events. The Discharger shall review and update this work plan as necessary

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so it remains current and applicable to the discharge. At minimum, the work plan shall include:

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

b. A description of methods for maximizing in-house treatment system efficiency, good housekeeping practices, and a list of all chemicals used in operations at the facility.

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

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

The summary result shall be used when there is discharge more than one day in a calendar month. The single result shall be used when there is discharge of only one day in a calendar month.

Within 24 hours of the time the Discharger becomes aware of a failing result, the Discharger shall implement an accelerated monitoring schedule consisting of four, five-concentration (including IWC, two dilutions above and two dilutions below IWC) toxicity tests, conducted at approximately two week intervals, over an eight week period. If each of the accelerated toxicity tests at the discharge IWC results in "Pass", the Discharger shall return to routine monitoring for the next monitoring period. If one of the accelerated toxicity tests at the discharge IWC results in "Fail", the Discharger shall immediately implement the Toxicity Reduction Evaluation (TRE) Process conditions set forth below.

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 Discharger shall immediately initiate a TRE using, according to the type of treatment facility, *EPA manual Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989) and, within 30 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 Discharger to investigate, identify, and correct the causes of toxicity.

ii. Actions the Discharger 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 Discharger 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, EPA 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*

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

d. The Discharger shall conduct routine effluent monitoring for the duration of the TRE process. Additional accelerated monitoring and TRE work plans are not required once a TRE is 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, including:

a. The toxicity test results for the TST approach, reported as “Pass” or “Fail” and “Percent Effect” at the chronic toxicity IWC for the discharge.

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

c. TRE/TIE results. The Executive Officer shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses.

d. Statistical program (e.g., TST calculator, CETIS, etc.) output results for each toxicity test.

e. Any additional QA/QC documentation or any additional chronic toxicity-related information, upon request of Regional Water Board staff.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Monitoring Location RSW-001

1. The Discharger shall monitor the Long Beach Inner Harbor at Monitoring Location RSW-001 as follows:

Table E-4. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	standard units	Grab	1/Quarter	[1, 2]
Temperature	^{o}F	Grab	1/Quarter	[1, 2]

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Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Salinity	parts per thousand (ppt)	Grab	1/Quarter	[1, 2]
Total Ammonia (as N)	mg/L	Grab	1/Quarter	[1, 2]
Total Coliform	MPN/100 mL	Grab	5/Quarter[3]	[2]
Fecal Coliform	MPN/100 mL	Grab	5/Quarter[3]	[2]
Enterococcus	MPN/100 mL	Grab	5/Quarter[3]	[2]
Remaining Priority Pollutants[4]	µg/L	Grab	1/Year	[2]

1. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136; for priority pollutants, the methods must meet the lowest MLs specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.
2. Receiving water samples for pH, temperature, salinity and ammonia must be collected at the same time.
3. Five (5) samples should be taken equally spaced over a 30-day period with the first sample taken in the monitoring month (February, May, August, or November) for the required quarter. The results will provide sufficient data for the calculation of the geometric mean values.
4. Priority Pollutants as defined by the CTR defined in Finding II.I of the Limitations and Discharge Requirements of this Order, and included as Attachment I.

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IX. HARBOR TOXICS TMDL MONITORING

The Discharger may act independently or join a group already formed to conduct the Harbor Toxics TMDL monitoring including the following components as described in section VI.C.2.c of the Order.

A. Greater Los Angeles and Long Beach Harbor Waters Water Column Monitoring

Water samples and total suspended solids (TSS) samples shall be collected during two wet weather events and one dry weather event each year. TSS shall be collected at several depths during wet weather events. The first large storm event of the season shall be included as one of the wet weather events. General water chemistry (temperature, dissolved oxygen, pH and salinity) and a flow measurement shall be required at each sampling event.

B. Greater Los Angeles and Long Beach Harbor Waters Sediment Monitoring

Sediment chemistry samples shall be collected every five years. The analysis shall include the chemical suite, two toxicity tests and four benthic indices as specified in the State Water Quality Control Plan for Enclosed Bays and Estuaries—Part 1 Sediment Quality.

C. Fish Tissue Monitoring

Fish tissue samples shall be collected every two years in San Pedro Bay, Los Angeles Harbor and Long Beach Harbor, and analyzed for chlordane, dieldrin, toxaphene, DDT, and PCBs. At a minimum, three species shall be collected, including white croaker, a sport fish, and a prey fish.

X. OTHER MONITORING REQUIREMENTS

A. Chemical Use Report

1. The Discharger 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 the waste discharge, including quantities of each.

2. The Discharger shall monitor the chemicals used in the facility. Prior to any change in the use of chemicals at the facility the Discharger must inform the Regional Water Board. No changes in the type or amount of chemicals added to the process water shall be made without the written approval of the Regional Water Board's Executive Officer. To comply with this provision, the Discharger must submit a complete report of the change to the Regional Water Board before the proposed date of change. This requirement does not apply to changes of chemical brand names where the chemical composition and Material Safety Data Sheet (MSDS) information for the new brand is essentially identical to the previous chemical used. The change in brand or manufacturer with a copy of the new MSDS sheet need only be reported to the Regional Water Board in the Discharger's quarterly DMRs.

B. Regional Monitoring

The Discharger may be required to participate in the development of Regional Monitoring program(s) to address pollutants as specified in the Harbor Toxics TMDL. If the Discharger joins a group of stakeholders to complete this monitoring, the Discharger must provide documentation of participation and a description of applicable responsibilities. The Regional Water Board must also be provided with documentation of the availability of the reports associated with the implementation of the Monitoring Plan.

XI. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

2. If there is no discharge during any reporting period, the report shall so state.

3. If the Discharger monitors (other than for process/operational control, startup, research, or equipment testing) any influent, effluent, or receiving water constituent more frequently than required by this Order using approved analytical methods, the results of those analyses shall be included in the monitoring report. These results shall be reflected in the calculation of the average (or median) used in demonstrating compliance with this Order/Permit.

4. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and 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 waste discharge requirements, as well as all excursions of effluent limitations.

5. Quarterly analyses shall be performed during the months of February, May, August, and November. Semiannual analyses shall be performed during the months of February and August. Annual analyses shall be performed during the month of August. Should there be instances when monitoring could not be done during these specified months, the Discharger must notify the Regional Water Board, state the reason why the monitoring could not be conducted, and obtain approval from the Executive Officer for an alternate

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schedule. Results of annual analyses shall be reported in the quarterly monitoring report following the analysis.

6. The Discharger shall inform the Regional Water Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.

7. The Discharger shall report the results of chronic toxicity testing, TRE and TIE as required in the Attachment E, Monitoring and Reporting, section V.A.g.

B. Self-Monitoring Reports (SMRs)

1. The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS Web site will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

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

Table E-5. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	April 1, 2016	All	Submit with quarterly SMR
Daily	April 1, 2016	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with quarterly SMR
Monthly	April 1, 2016	1st day of calendar month through last day of calendar month	Submit with quarterly SMR
Quarterly	April 1, 2016	January 1 – March 31 April 1 – June 30 July 1 – September 30 October 1 – December 31	May 1 August 1 November 1 February 1
Semiannually	April 1, 2016	January 1 – June 30 July 1 – December 31	August 1 February 1
Annually	April 1, 2016	January 1 through December 31	February 1

4. **Reporting Protocols.** The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 C.F.R. part 136.
The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

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

5. **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 Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

6. **Multiple Sample Data.** When determining compliance with an AMEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger 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 Discharger shall submit SMRs in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a

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tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

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

C. Discharge Monitoring Reports (DMRs)

1. As of the effective date of this Order, if the Discharger operates a "nonmajor" facility as designated on page 1 of this Order, electronic submittal of Discharge Monitoring Reports (DMRs) is not required. However, at any time during the term of this Order, the State Water Board or Regional Water Board may notify and require the Discharger to electronically submit DMRs.

D. Other Reports

1. **Within 90 days** of the effective date of this permit, the Discharger is required to submit the following to the Regional Water Board:

   a. An Initial Investigation TRE workplan (Section V.A.6 of the MRP)

   b. An updated SWPPP (Section VI.C.3 of the Order)

   c. An updated BMPP (Section VI.C.3 of the Order)

   d. An updated Spill Contingency Plan (Section VI.C.3 of the Order)

2. According the Harbor Toxics TMDL, the Discharger shall submit an annual monitoring/implementation report to the Regional Water Board. The report shall describe the measures implemented and the progress achieved toward meeting the assigned WLAs. The annual report shall be received by the Regional Water Board by the specified date in the proposed Monitoring Plan.

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ATTACHMENT F – FACT SHEET

As described in section II.B of this Order, 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 Dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	4B192111002
Discharger	Long Beach Generation LLC
Name of Facility	Long Beach Generating Station
Facility Address	2665 Pier S Lane
	Long Beach, CA 90802
	Los Angeles County
Facility Contact, Title and Phone	Ken H. Riesz, Plant Manager, (310) 615-6030
Authorized Person to Sign and Submit Reports	SAME
Mailing Address	2665 Pier S Lane, Long Beach, CA 90802
Billing Address	SAME
Type of Facility	Electric Power Generation (SIC Code 4911)
Major or Minor Facility	Minor
Threat to Water Quality	3
Complexity	B
Pretreatment Program	NA
Recycling Requirements	NA
Facility Permitted Flow	4.3 million gallons per day (MGD)
Facility Design Flow	4.3 MGD
Watershed	Dominguez Channel and Los Angeles Harbor/Long Beach Harbor WMA
Receiving Water	Long Beach Inner Harbor (Back Channel)
Receiving Water Type	Enclosed Bay

A. Long Beach Generation, LLC (hereinafter Discharger) is the owner and operator of the Long Beach Generating Station (hereinafter Facility), an electric power generation facility.

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 Facility discharges wastewater consisting of groundwater from dewatering systems, storm water, and intermittent low volume wastes to the Back Channel of the Long Beach Harbor (a segment of the Long Beach Inner Harbor), a water of the United States. The

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Discharger was previously regulated by Order R4-2009-0112 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0001171 adopted on November 5, 2009. Order R4-2009-0112 expired on October 10, 2014; however, pursuant to 40 C.F.R. section 122.6, the permit has been administratively extended and the terms and conditions of the permit remain in effect until the Board issues new Waste Discharge Requirements (WDRs) and NPDES permit pursuant to this Order. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

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. The State Water Board retains the jurisdictional authority to enforce such requirements under Water Code section 1211.

C. The Discharger filed a report of waste discharge and submitted an application for reissuance of its WDRs and NPDES permit on April 11, 2014. Addendum to Report of Waste Discharge was submitted by the Discharger on April 22, 2014. A site visit was conducted on October 14, 2014, to observe operations and collect additional data to develop permit limitations and requirements for waste discharge. Supplemental information and clarifications were received on April 23, 2015. The application was deemed complete on April 24, 2015.

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II. FACILITY DESCRIPTION

The Facility is an electric power generating station consisting of four gas-fueled electric generating units. The Facility contains two switchyards, a boiler room, a gas turbine room, and a steam turbine room. The Facility currently operates four combustion turbine generators (CTG) to generate up to 260-mega watts (MW) of energy for the region's power grid during peak energy demand. Each CTG provides a nominal 65 MWs of power. Referred to as Units 1 – 4, these CTGs are a refurbishment of a set of existing CTGs which were retired from service on January 1, 2005, along with five other units. The Facility previously operated a once-through cooling system, serving Units 1-9. In October 2007, the once-through cooling system utilized by the retired steam turbines was abandoned by plugging the intake and outfall tunnels. These changes eliminate the possible discharges of the once-through cooling water.

A. Description of Wastewater and Biosolids Treatment and Controls

Wastewater sources are primarily groundwater from a dewatering system, storm water, in-plant low volume wastes from floor drains and air pollution control equipment, and fire test water. All wastewater and storm water at the site are conveyed to a wastewater treatment system. In addition, under the asset sale agreement in 1998, the Facility continues to allow groundwater and storm water (including fire test water) originating from the nearby Plains All American Pipeline LP's tank farm and Southern California Edison's high voltage electrical switchyards to be discharged through the Facility's outfall. From April 1, 2011 to May 31, 2015, the average flow was 0.43 MGD with a maximum flow of 0.966 MGD on December 12, 2011.

1. Low Volume Waste

Low volume waste sources at the Facility include floor drains inside the power block, small amounts of water from air pollution control equipment and the reverse osmosis brine. The Facility uses selective catalytic reduction for control of NOx air emissions. Source water for this system is obtained from the municipal water supply which is treated using reverse osmosis. The reverse osmosis brine may be re-used as fire test water or discharged to the wastewater treatment system. Ammonia is injected into the exhaust gas to react with NOx (primarily NO) in the presence of oxygen to form N_2 and water.

Normally, any aqueous ammonia solution is evaporated and does not produce a wastewater. However, small amounts of wastewater may enter the low volume waste stream. The Discharger indicated that the low volume waste flows are intermittent and negligible. The intermittent flow has been estimated at approximately 5,000 gallons per day or less.

2. **Ground Water**

The site is located approximately 20 feet below sea level. As a result, the Facility operates a dewatering system. Groundwater extraction "straws" (pipelines) are placed around the perimeter of the site and vacuum extraction pumps move groundwater to the wastewater treatment system.

3. **Stormwater**

All storm water from the site and from the Southern California Edison switchyards and the Plains All American Pipeline LP tank farm is conveyed to the retention basin and then treated in the wastewater treatment system. In the event of extreme precipitation to avoid flooding, storm water may be diverted around the treatment system and discharged through Discharge Point 001.

Wastewater Treatment System

Low volume wastes, storm water, and ground water are pumped to the retention basin and then to the wastewater treatment system.

For ammonia removal, sodium hypochlorite is injected into the wastewater stream just prior to its entering the oil/water separator. The basin capacity is approximately 800,000 gallons, with an 18-20 milliliter polyethylene liner. The basin is divided down the center so that water in each half can be isolated and drained for maintenance. Solids are removed from the basin approximately once every three years. The inlet to the retention basin consists of several pipes that discharge into a vault/box with weirs. Several water jets, affixed along the rim of the basin, spray recirculated basin water to provide aeration for control of algae.

Effluent from the basin flows to an oil water separator and then to a holding (surge) tank. Subsequently, wastewater is treated in the onsite treatment system that consists of eight sand filters, a bag filter, four-carbon adsorption filters, and two ion exchange tanks. Following ion exchange, treated wastewater is monitored at a valve located prior to Discharge Point 001.

The treated wastewater is discharged through Discharge Point 001 (see table on cover page) to the Back Channel of the Long Beach Harbor, a water of the United States. During a severe storm event, when the volume of water generated at the site greatly exceeds the volume that can be handled by the retention basin and the associated wastewater treatment system, a portion of the collected water that bypasses the treatment system will be discharged directly from Discharge Point 001. However, operation procedures are in place to ensure that the first flush from any storm event is subject to the treatment system prior to discharge, until the condition of potential capacity exceedance in the basin is reached. During the term of the previous Order, the bypass occurred in December 2010.

B. Discharge Points and Receiving Waters

The Facility is permitted to discharge up to 4.3 MGD of wastewater to the Back Channel of the Long Beach Harbor (a part of Long Beach Inner Harbor), a water of the United States, through Discharge Point 001 located at Latitude 33.764722^{o} North, Longitude -118.221389^{o} West.

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

Effluent limitations contained in the existing Order for discharges from Discharge Point 001 (Monitoring Location EFF-001) and representative monitoring data from the term of the previous Order are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation		Monitoring Data (From January 2010 – To June 2015)	
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge	Highest Daily Discharge
Conventional Pollutants					
Biochemical Oxygen Demand (5-day; 20 deg. C)	mg/L	20	30	6.1	6.1
Oil and Grease	mg/L	10	15	7.1	7.1
pH	s.u.	6.5 – 8.5 (Instantaneous Min./Max.)		5.9 – 8.5[1]	
Total Suspended Solids	mg/L	50	75	34	34
Non-Conventional Pollutants					
Total Ammonia (as N)	mg/L	1.0	2.1	1.9	3.42
Chlorine, Total Residual	mg/L	0.1 (Instantaneous Maximum)		--	0.1
Temperature	°F	86 (Instantaneous Maximum)		--	88[2]
Settleable Solids	mL/L	0.1	0.3	0.1	0.1
Turbidity	NTU	50	75	16	16
Acute Toxicity	% survival	[3]		96%[6]	
Priority Pollutants					
Arsenic, Total Recoverable	µg/L	29	59	10.3	11
Cadmium, Total Recoverable	µg/L	7.7	15	0.285	0.86
Copper, Total Recoverable, Interim[5]	µg/L	--	44	--	6.8
Copper, Total Recoverable, Final[5]	µg/L	2.9	5.8	2.85	4.38[4]
Lead, Total Recoverable	µg/L	7.0	14	1.72	2.14
Mercury, Total Recoverable	µg/L	0.051	0.10	0.032	0.04
Nickel, Total Recoverable, Interim[5]	µg/L	--	84	--	8.4
Nickel, Total Recoverable, Final[5]	µg/L	6.8	14	6.47	10.9
Selenium, Total Recoverable	µg/L	58	120	3.56	3.68
Zinc, Total Recoverable, Interim[5]	µg/L	--	310	--	74

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Parameter	Units	Effluent Limitation		Monitoring Data (From January 2010 – To June 2015)	
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge	Highest Daily Discharge
Zinc, Total Recoverable, Final[5]	µg/L	47	95	37.2	42.7

1. Range of Instantaneous values.
2. Highest instantaneous maximum.
3. There shall be no acute toxicity in the discharge. The acute toxicity of the effluent shall be such that:
   i. The average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, and
   ii. No single test producing less than 70% survival.
4. Additional monitoring result reported in the ROWD.
5. Final effluent limitations became effective on May 19, 2010. From December 5, 2009 through May 18, 2010, interim effluent limitations were applicable.
6. Acute toxicity result reported in June 2015.

D. Compliance Summary

1. Data submitted to the Regional Water Board during the term of Order R4-2009-0112 for the period January 2009 through September 2014 indicate that the Discharger has not complied with reporting requirements as outlined in the table below:

Table F-3. Summary of Compliance History

Date	Monitoring Period	Violation Type	Pollutants	Reported Value	Permit Limitation	Units
3/31/2010	1st Quarter 2010	Instantaneous Minimum	pH	5.93	6.5	standard units
8/7/2013	3rd Quarter 2013	Daily Maximum	Total Ammonia	2.72	2.1	µg/L as N
8/13/2013	3rd Quarter 2013	Daily Maximum	Total Ammonia	2.41	2.1	µg/L as N
8/17/2013	3rd Quarter 2013	Daily Maximum	Total Ammonia	2.13	2.1	µg/L as N
8/18/2013	3rd Quarter 2013	Daily Maximum	Total Ammonia	2.35	2.1	µg/L as N
8/22/2013	3rd Quarter 2013	Daily Maximum	Total Ammonia	3.42	2.1	µg/L as N
8/23/2013	3rd Quarter 2013	Daily Maximum	Total Ammonia	2.93	2.1	µg/L as N
8/31/2013	3rd Quarter 2013	Monthly Average	Total Ammonia	1.9	1.0	µg/L as N

In addition to the record of violations of numeric limitations above, the Discharger received violations for deficits in reporting. To address the violations listed in the table above the Regional Water Board issued Settlement Offer No. R4-2014-0042 on May 5, 2014. The Discharger agreeded to Settlement Offer No. R4-2014-0042 on May 14, 2014 and submitted the required penalty fees to the Regional Water Board on June 4, 2014.

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E. Planned Changes

The Discharger has indicated that there are no substantive changes to processes or operations anticipated during the term of this Order.

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 (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 U.S. EPA and chapter 5.5, division 7 of the Water Code (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 Water Code 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* (hereinafter Basin Plan) on June 13, 1994 that designates beneficial uses, establishes water quality objectives, 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. Beneficial uses applicable to Long Beach Inner Harbor are as follows:

Table F-4. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Long Beach Inner Harbor	Existing: Industrial service supply (IND), navigation (NAV), non-contact water recreation (REC-2), commercial and sport fishing (COMM), marine habitat (MAR), and rare, threatened, or endangered species (RARE) Potential: Water contact recreation (REC-1), shellfish harvesting (SHELL)

2. **Thermal Plan.** The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on January 7, 1971, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Discharges from the Facility are not considered thermal wastes or elevated temperature wastes since the discharge of the once-through cooling water was permanently terminated in October 2007. Requirements of this Order implement the Thermal 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*. The

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white paper evaluated the optimum temperatures for steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel. As per the information included in the white paper, a maximum effluent temperature limitation of 86°F is included in this Order.

3. **Sediment Quality.** The State Water Board adopted the Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality on September 16, 2008, and it became effective on August 25, 2009. This plan supersedes other narrative sediment quality objectives, and establishes new sediment quality objectives and related implementation provisions for specifically defined sediments in most bays and estuaries. Requirements of this Order implement sediment quality objectives of this Plan.

4. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA 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, U.S. EPA 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 state. The CTR was amended on February 13, 2001. These rules contain federal water quality criteria for priority pollutants.

5. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the U.S. EPA 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 U.S. EPA 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.

6. **Antidegradation Policy.** Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California"). 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 permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 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 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

8. **Endangered Species Act 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 Endangered Species Act (Fish and Game Code, §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of

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waters of the state, including protecting rare, threatened, or endangered species. The discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

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

Section 303(d) of the CWA requires states to identify specific water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources. For all 303(d)-listed water bodies and pollutants, the Regional Water Board plans to develop and adopt TMDLs that will specify waste load allocations (WLA) for point sources and load allocations (LAs) for non-point sources, as appropriate.

Certain receiving waters in the Los Angeles and Ventura County watersheds do not fully support beneficial uses and therefore have been classified as impaired on the 2010 303(d) list and have been scheduled for TMDL development. On November 12, 2010, U.S.EPA approved California's 2010 Section 303(d) list of impaired waters and disapproved the omission of several water bodies and associated pollutants that meet federal listing requirements. U.S.EPA identified additional water bodies and pollutants for inclusion on the State's 303(d) list. On October 11, 2011, U.S.EPA issued its final decision regarding the waters U.S.EPA added to the State's 303(d) list.

The Facility discharges into Long Beach Inner Harbor. The 2010 State Water Resources Control Board (State Water Board) California 303(d) List includes the Los Angeles-Long Beach Inner Harbor. The pollutants of concern are beach closures due to bacteria, benthic community effects, benzo(a)pyrene (3,4-benzopyrene-7-d), chrysene, copper, dichlorodiphenyltrichloroethane (DDT), polychlorinated biphenyls (PCBs), sediment toxicity, and zinc.

The following are summaries of the TMDLs for the Los Angeles-Long Beach Inner Harbor:

1. **Harbor Toxics TMDL**

Background. The Regional Water Board adopted Resolution No. R11-008 on May 5, 2011, that amended the Basin Plan to incorporate the *TMDL for Toxic Pollutants in Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters* (Harbor Toxics TMDL). The Harbor Toxic TMDL was approved by the State Water Board on February 7, 2012, the OAL on March 21, 2012, and the U.S.EPA on March 23, 2012. The Harbor Toxics TMDL contains requirements applicable to this discharge. Therefore, this Order contains effluent limitations and monitoring requirements based on the TMDL. The Harbor Toxics TMDL includes:

a. Sediment interim concentration-based allocations (in mg/kg sediment) for copper, lead, zinc, DDT, PAHs, and PCBs (Attachment A to Resolution R11-008, p. 11).

b. Water column final concentration-based WLAs (µg/L) for copper, lead, zinc, 4,4'-DDT, and total PCBs (Attachment A to Resolution R11-008, pp. 13-14).

c. Provisions for monitoring discharges and/or receiving waters during the TMDL's 20-year implementation schedule to determine attainment with WLAs and LAs as appropriate.

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Implementation.

The provisions included in this Order implement and are consistent with the assumptions and requirements of all WLAs established in Harbor Toxics TMDL that are applicable to the discharge from this Facility.

a. Water Column WLAs. This Order also requires final WQBELs that are statistically-calculated based on saltwater column final concentration-based WLAs (in µg/L, total recoverable metal) for copper (3.73), lead (8.52), zinc (85.6), 4,4'-DDT (0.00059), and total PCBs (0.00017) [referred to in this Order as CTR TMDL-based WLAs] converted from saltwater CTR criteria using CTR saltwater default translators, and relevant implementation provisions in section 1.4 of the State Implementation Policy. The TMDL includes provisions for a 20-year implementation schedule when warranted. However, this Order requires final WQBELs (referred to in this Order as CTR TMDL based effluent limits).

b. Interim Sediment WLAs and Monitoring. This Order includes monitoring thresholds based on interim sediment concentration-based allocations (in mg/kg sediment) for copper (142.3), lead (50.4), zinc (240.6), DDT (0.070), PAHs (4.58), and PCBs (0.060) [referred to in this Order as TMDL-based priority pollutants] and associated monitoring requirements for the effluent. Regardless of these monitoring thresholds, the Discharger shall ensure that effluent concentrations and mass discharges do not exceed levels that can be attained by performance of the Facility's treatment technologies existing at the time of permit issuance, reissuance, or modification. The TMDL's interim sediment allocations were developed to ensure that the beneficial uses of the Long Beach Inner Harbor are protected.

   The water column CTR TMDL-based WLAs for copper, lead, zinc, 4,4'-DDT, and total PCBs are developed to ensure that the beneficial uses of the Long Beach Inner Harbor are preserved. However, no water column CTR TMDL-based WLAs are assigned for PAHs for the Greater Harbor Waters (includes Long Beach Inner Harbor). Therefore, performance goals are established for the PAHs (benzo(a)pyrene and chrysene) based on CTR human health criteria (see below for details).

   During each reporting period, if effluent monitoring results exceed both a TSS effluent limit and a CTR TMDL-based effluent limit or performance goal for copper, lead, zinc, PAHs [benzo(a)pyrene, chrysene], DDT or total PCBs, then the Discharger has not demonstrated attainment with the interim sediment allocations (in mg/kg sediment) for copper (142.3), lead (50.4), zinc (240.6), DDT (0.070), PAHs (4.58), and PCBs (0.060) stipulated by the Harbor Toxics TMDL (Attachment A to Resolution No. R11-008, p. 11) and implementation of the effluent sediment monitoring program is required for that priority pollutant. The effluent sediment monitoring shall begin during the next regular monitoring event following the effluent exceedances. An effluent sediment monitoring result at or below interim sediment allocations (monitoring thresholds) demonstrates attainment with the monitoring thresholds and additional effluent sediment monitoring is not required. An effluent sediment monitoring result that exceeds the interim sediment allocation requires additional effluent sediment monitoring during discharge, but not more frequently than once per year, until the three-year average concentration for the effluent sediment monitoring results is at or below the applicable interim sediment allocation.

c. Performance Goals for PAH Compounds Benzo(a)pyrene and Chrysene. CTR human health criteria are not promulgated for total PAHs. Therefore, performance goals are based on CTR human health criteria for the individual PAHs,

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benzo(a)pyrene (0.049 µg/L) and chrysene (0.049 µg/L). Benzo(a)pyrene and chrysene are selected because the State's 2010 303(d) List classifies the Los Angeles/Long Beach Inner Harbor as impaired for these PAH compounds. Performance goals are intended to ensure that effluent concentrations do not exceed levels currently achieved by the permitted facility. These performance goals are not enforceable effluent limitations. They act as triggers to determine when sediment monitoring of the effluent is required for these compounds.

d. Water Column, Sediment, and Fish Tissue Monitoring for Greater Los Angeles and Long Beach Harbor Waters Compliance Monitoring Program. The TMDL's implementation schedule to demonstrate attainment with the WLAs and load allocations is a maximum of 20 years after the TMDL effective date for a Discharger who justifies the need for the time. During this period, the Discharger is required, either individually or with a collaborating group, to develop a monitoring and reporting plan (Monitoring Plan) and quality assurance project plan (QAPP) for the water column, sediment, and fish tissue in the Greater Los Angeles and Long Beach Harbor. These plans shall follow the "TMDL Element – Monitoring Plan" provisions in Attachment A to Resolution No. R11-008.

The Discharger must inform the Regional Water Board if they plan to join a collaborative monitoring effort or develop a site specific plan 90 days after the effective date of this Order. If the Discharger is joining a collaborative effort that notification must include documentation of such. If the Discharger chooses to develop a site specific Monitoring Plan, the plan must be submitted no later than 12 months after the effective date of this Order for public review and, subsequently, Executive Officer approval. Monitoring shall begin no later than 6 months after a monitoring plan is approved by the Executive Officer. The compliance monitoring program shall include water column, sediment, and fish tissue monitoring.

2. **Bacteria TMDL.**

The Los Angeles Harbor Bacteria TMDL was adopted by the Regional Water Board on July 1, 2004, by Resolution No. R4-2004-011. The TMDL was subsequently approved by the State Water Board on October 21, 2004, by the Office of Administrative Law (OAL) on January 5, 2005, and by U.S. EPA on March 1, 2005. The TMDL became effective on March 10, 2005, when the Regional Water Board filed a Certificate of Fee Exemption with the California Department of Fish and Game. However, this TMDL addresses only the elevated bacterial indicator densities that are causing impairment of the REC-1 beneficial use of Inner Cabrillo Beach and the potential REC-1 uses of the Main Ship Channel in the Los Angeles Inner Harbor. Waterbodies within the Long Beach Inner Harbor are not included. This TMDL is not applicable to this permit because the Facility discharges wastewater to the Back Channel of Long Beach Harbor (a part of Long Beach Inner Harbor).

E. Other Plans, Polices and Regulations – Not Applicable

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants 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 the Code of Federal Regulations: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include

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water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

A. Discharge Prohibitions

Discharge Prohibitions in this Order are based on the Federal Clean Water Act, Basin Plan, Water Code, State Water Resources Control Board's plans and policies, California Ocean Plan, U.S. Environmental Protection Agency guidance and regulations, and previous permit provisions.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing U.S.EPA permit regulations at 40 C.F.R. section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Best Professional Judgment (BPJ) in accordance with 40 C.F.R. section 125.3.

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

a. Best practicable treatment control technology (BPT) represents the average of the best existing performance by well-operated facilities within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.

c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering a two-part reasonableness test. The first test compares the relationship between the costs of attaining a reduction in effluent discharge and the resulting benefits. The second test examines the cost and level of reduction of pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. Effluent limitations must be reasonable under both tests.

d. New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires U.S.EPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 40 C.F.R. section 125.3 authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the Regional Water Board must consider specific factors outlined in 40 C.F.R. section 125.3.

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2. Applicable Technology-Based Effluent Limitations

This Order includes technology-based effluent limitations based on BPJ in accordance with 40 C.F.R. section 125.3. Since discharges of once-through cooling water were terminated in October 2007, discharges from the Facility consist of groundwater from dewatering systems, storm water and intermittent low volume wastewater. Currently, no ELGs exist for discharges at the Facility. As such, BPJ is used to develop technology-based limitations for the control of some pollutants. Effluent limitations for total suspended solids (TSS), 5-day biochemical oxygen demand (BOD_5), oil and grease, turbidity, and settleable solids have been prescribed based on limitations in NPDES permits for similar discharges. In setting these limitations, the Regional Water Board considered the factors listed in 40 C.F.R. section 125.3(d). The Discharger's past performance demonstrates the ability to consistently meet the effluent limitations for BOD_5, oil and grease, TSS, settleable solids (last exceedance December 13, 2009), and turbidity established in the previous order. As the current technology used by the Discharger is capable of meeting the limitations, no changes to equipment, facilities, process, or controls are necessary, thereby the Long Beach Generating Station will incur no additional costs or non-water quality environmental impacts.

Table F-5. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
BOD_5 (5-day @ 20 deg. C)	mg/L	20	30
Oil and Grease	mg/L	10	15
TSS	mg/L	50	75
Settleable Solids	mL/L	0.1	0.3
Turbidity	NTU	50	75

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C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) of 40 C.F.R. 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, water quality-based effluent limitations (WQBELs) must be established using: (1) U.S.EPA 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 water quality objectives and criteria that are

contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

As noted in section II of the Limitations and Discharge Requirements, the Regional Water Board adopted a Basin Plan that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. The beneficial uses applicable to the Long Beach Inner Harbor are summarized in section III.C.1 of this Fact Sheet. The Basin Plan includes both narrative and numeric water quality objectives applicable to the receiving water.

Priority pollutant water quality criteria in the CTR are applicable to the receiving water (Long Beach Inner Harbor). The CTR contains both saltwater and freshwater criteria. Because a distinct separation generally does not exist between freshwater and saltwater aquatic communities, the following apply, in accordance with 40 C.F.R. section 131.38(c)(3) (a section in the CTR), saltwater criteria apply at salinities of 10 part per thousand (ppt) and higher at locations where this occurs 95 percent or more of the time. Results of the Discharger's salinity monitoring from May 6, 2010 through February 10, 2015 showed a salinity range of 27.3 ppt to 35.6 ppt. Therefore, the CTR criteria for saltwater aquatic life or human health for consumption of organisms, whichever is more stringent, are used to prescribe the effluent limitations in this Order to protect the beneficial uses of the Long Beach Inner Harbor.

The table below summarizes the applicable water quality criteria/objective for priority pollutants reported in detectable concentrations in the effluent or receiving water.

Table F-6. Applicable Water Quality Criteria

CTR No.	Constituent	Selected Criteria	CTR/NTR Water Quality Criteria					
			Freshwater		Saltwater		Human Health for Consumption of:	
			Acute	Chronic	Acute	Chronic	Water & Organisms	Organisms only
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
--	Ammonia Nitrogen, Total (as N)	1,230	Not Applicable		4,550	1,230	Not Applicable	--
1	Antimony	4,300			--	--		4,300
2	Arsenic	36			69	36		--
4	Cadmium	9.36			42.2	9.36		Narrative
6	Copper	3.73			5.78	3.73		--
7	Lead	8.52			221	8.52		Narrative
8	Mercury	0.051			Reserved	Reserved		0.051
9	Nickel	8.3			74.75	8.28		4,600
10	Selenium	71.14			291	71.14		Narrative
13	Zinc	86.6			95.1	86.6		--
--	TCDD-Equivalents	1.4×10^{-8}			--	--		1.4×10^{-8}
20	Bromoform	360			--	--		360
23	Chlorodibromomethane	34			--	--		34

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CTR No.	Constituent	Selected Criteria	CTR/NTR Water Quality Criteria					
			Freshwater		Saltwater		Human Health for Consumption of:	
			Acute	Chronic	Acute	Chronic	Water & Organisms	Organisms only
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
26	Chloroform	No Criteria			--	--		--
27	Dichlorobromomethane	46			--	--		46
35	Methyl Chloride	No Criteria			--	--		--
36	Methylene Chloride	1,600			--	--		1,600
53	Pentachlorophenol	7.9			13	7.9		8.2
56	Acenaphthene	2,700			--	--		2,700
57	Acenaphthylene	No Criteria			--	--		--
58	Anthracene	110,000			--	--		110,000
60	Benzo(a) Anthracene	0.049			--	--		0.049
61	Benzo(a) Pyrene	0.049			--	--		0.049
68	Bis(2-ethylhexyl) Phthalate	5.9			--	--		5.9
70	Butylbenzyl Phthalate	5,200			--	--		5,200
73	Chrysene	0.049			--	--		0.049
79	Diethyl Phthalate	120,000			--	--		120,000
81	Di-n-butyl Phthalate	12,000			--	--		12,000
86	Fluoranthene	370			--	--		370
87	Fluorene	14,000			--	--		14,000
94	Naphthalene	No Criteria			--	--		--
99	Phenanthrene	No Criteria			--	--		--
100	Pyrene	11,000			--	--		11,000
119-125	PCBs	0.00017			--	--		0.00017

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Numeric criterion for TCDD equivalents:
The CTR establishes a numeric water quality objective for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD) of 1.4 x 10^{-8} µg/L for the protection of human health, when aquatic organisms are consumed. When CTR was promulgated, USEPA stated its support of the regulation of other dioxin and dioxin-like compounds through the use of toxicity equivalencies (TEQs) in NPDES permits. For California waters, USEPA stated specifically, "if the discharge of dioxin or dioxin-like compounds has reasonable potential to cause or contribute to a violation of a narrative criterion, numeric water quality-based effluent limitations for dioxin or dioxin-like compounds should be included in NPDES permits and should be expressed using a TEQ scheme" [65 Fed. Reg. 31682, 31695

(2000)]. This procedure, developed by the World Health Organization (WHO) in 1988, uses a set of toxicity equivalency factors (TEFs) to convert the concentration of any congener of dioxin or furan into an equivalent concentration of 2,3,7,8-TCDD.

When the CTR was promulgated, USEPA also stated that the Agency will continue to assess the risks posed by dioxin to public health. To determine if the discharge of dioxin or dioxin-like compounds from the Facility has reasonable potential to cause or contribute to a violation of the Basin Plan's narrative water quality objective regarding bioaccumulation, Regional Water Board staff has therefore used TEFs to express the measured concentrations of 16 dioxin congeners in effluent and background samples as 2,3,7,8-TCDD. These "equivalent" concentrations are then compared to the numeric criterion, established by the CTR for 2,3,7,8-TCDD of 1.4×10^{-8} μg/L.

Translation of un-ionized ammonia (NH_3) water quality objectives to total ammonia water quality objectives:

Total un-ionized ammonia (NH_3) water quality objectives of 0.035 mg/L for the 4-day average and 0.233 mg/L for the 1-hour average are to be translated to total ammonia ($NH_4^+ + NH_3$) utilizing the implementation procedure contained in Resolution No. 2004-022 which revised the saltwater ammonia water quality objectives in the 1994 Basin Plan. The equation for the translation is as follows:

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

Where: P = 1 atm
T = temperature (ºK)
$pK_a^s = 0.116 * i + 9.425$, the stoichiometric acid hydrolysis constant of ammonium ions in saltwater based on i
i = 19.9273 S (1000 – 1.005109 S)-1, the molal ionic strength of saltwater based on S
S = salinity

In order to calculate total ammonia objectives, receiving water pH, temperature, and salinity data are required. Monitoring data (pH, temperature and salinity) of the receiving water from May 2010 to May 2015 were used in the calculation. The calculated total ammonia water quality objectives are as follows:

One hour average total ammonia objective: 4.599 mg NH_3/L
based on: 90 percentile pH (8.23),
90 percentile temperature (19.17 ºC) and
10 percentile salinity (32 ppt)

4-day average total ammonia objective: 1.185 mg NH_3/L
based on: 50 percentile pH (8.07),
50 percentile temperature (16.77 ºC) and
50 percentile salinity (33.3 ppt)

The reasonable potential analysis for ammonia was conducted based on these two total ammonia objectives.

Harbor Toxics TMDL Receiving (salt) Water Column Concentration-Based Waste Load Allocation:

On May 5, 2011, the Regional Water Board adopted Resolution No. R11-008 that amended the Basin Plan to incorporate the *TMDL for Toxic Pollutants in Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters* (Harbor Toxics TMDL). The Harbor Toxics TMDL assigned concentration-based waste load allocations (WLAs) to any minor NPDES permits or enrollees under a general NPDES permits. The

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TMDL states, "*The allocations are set equal to the saltwater targets for metals and equal to the human health targets for the organic compounds in CTR. The averaging period for the concentration-based WLAs shall be consistent with that specified in the regulation establishing the criterion or objective or relevant implementation guidance published by the establishing agency.*"

Table F-8 summarizes the applicable WLAs for copper, lead, zinc, 4,4'-DDT and total PCBs contained in the Harbor Toxics TMDL. These WLAs are applicable to Discharge Point 001 discharging to the Long Beach Inner Harbor.

Table F-7. Harbor Toxics TMDL WLAs Applicable to Discharge Point 001

Constituents	Units	WLA
Copper, Total Recoverable[1]	µg/L	3.73
Lead, Total Recoverable[1]	µg/L	8.52
Zinc, Total Recoverable[1]	µg/L	85.6
4,4'-DDT	µg/L	0.00059
Total PCBs	µg/L	0.00017
Total PAHs[2]	µg/L	--

1. WLAs for metals are converted from saltwater dissolved CTR criteria using CTR saltwater default translators.
2. CTR human health criteria were not established for total PAHs. Therefore, the CTR criterion for individual PAHs of 0.049 µg/L is applied to benzo(a)anthracene, benzo(a)pyrene, and chrysene. Benzo(a)pyrene and chrysene are selected because the State's 2010 303(d) List classifies the Los Angeles/Long Beach Inner Harbor as impaired for these PAH compounds.

This permit implements the applicable WLAs as required in the TMDL. The WLAs are converted into effluent limitations by applying the CTR-SIP procedures.

3. Determining the Need for WQBELs

In accordance with Section 1.3 of the SIP, the Regional Water Board conducts a Reasonable Potential Analysis (RPA) for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the permit. If there are TMDL WLAs approved by USEPA, then WQBELs are developed using these WLAs. Otherwise, the Regional Water Board analyzes effluent and receiving water data and identifies the maximum observed effluent concentration (MEC) and maximum background concentration (B) in the receiving water for each constituent. To determine reasonable potential, the MEC and the B are then compared with the applicable water quality objectives (C) outlined in the CTR, NTR, as well as the Basin Plan. For all pollutants that have a reasonable potential to cause or contribute to an excursion above a state water quality standard, numeric WQBELs are required.

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:

a. Trigger 1 – if MEC ≥ C, a limit is needed.

b. Trigger 2 – If the background concentration B > C and the pollutant is detected in the effluent, a limit is needed.

c. Trigger 3 – If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, or other applicable factors indicate that a WQBEL is required.

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Sufficient effluent and receiving water data are needed to conduct a complete RPA. If data are not sufficient, the Discharger 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 Regional Water Board developed WQBELs for copper, lead, zinc, 4,4'-DDT and total PCBs based on the wasteload allocations included in the Harbor Toxics TMDL effective on March 23, 2012. The Regional Water Board developed water quality-based effluent limitations for these pollutants pursuant to 40 C.F.R. section 122.44(d)(1)(vii), which does not require or contemplate a reasonable potential analysis. Similarly, the SIP at Section 1.3 recognizes that reasonable potential analysis is not appropriate if a TMDL has been developed.

The RPA was conducted using effluent and receiving water monitoring data collected by the Discharger from February 2010 through May 2015. Refer to Attachment J for a summary of the RPA and associated effluent limitation calculations. Table F-8 summarizes the results of the RPA.

The reasonable potential analysis for ammonia was performed based on water quality objectives applicable to the receiving water contained in the Basin Plan. Consistent with procedures contained in the Basin Plan, the water quality objectives for ammonia were converted to total ammonia concentrations (i.e., ammonia plus ammonium concentrations) utilizing receiving water pH, temperature, and salinity data (see translation calculations in the last section). Total ammonia shows Tier 1 reasonable potential because the MEC was greater than C. Therefore, this Order establishes effluent limitations for total ammonia.

As discussed in section III.D of the Fact Sheet, discharges from the Facility are subject to the Harbor Toxics TMDL. This Order establishes effluent limitations for copper, lead, PCBs, and zinc based on the TMDL. Effluent limitations for these parameters were developed according to calculation procedures contained in section 1.4 of the SIP.

The following table summarizes results from the RPA.

Table F-8. Summary of Reasonable Potential Analysis

CTR No.	Constituent	Applicable Water Quality Criteria (µg/L)	Maximum Effluent Concentration (µg/L)	Maximum Detected Receiving Water Concentration (µg/L)	RPA Result – Need Limitation?	Reason
--	Ammonia Nitrogen, Total (as N)	1,230	3,420	940	Yes	MEC≥C
6	Copper	3.73	4.38	2.67	Yes	MEC≥C, TMDL
7	Lead	8.52	2.14	2.57	Yes[1]	TMDL
9	Nickel	8.3	10.9	5.24	Yes	MEC≥C
13	Zinc	85.6	74	38.8	Yes[1]	TMDL
--	TCDD-Equivalents	1.4×10^{-8}	1.3×10^{-6}	$<1.3 \times 10^{-7}$	Yes	MEC≥C
108	4,4'-DDT	0.00059	<0.001	<0.0031	Yes[1]	TMDL
119-125	PCBs	0.00017	0.04	<0.01	Yes[1]	TMDL[1]

1. Reasonable potential was established based on Harbor Toxics TMDL WLA.

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4. WQBEL Calculations

a. If a reasonable potential exists to exceed applicable water quality criteria or objectives, then a WQBEL must be established in accordance with one or more of the three procedures contained in section 1.4 of the SIP. These procedures include:

i. If applicable and available, use the WLA established as part of a TMDL.

ii. Use of a steady-state model to derive maximum daily effluent limitations (MDELs) and average monthly effluent limitations (AMELs).

iii. Where sufficient effluent and receiving water data exist, use of a dynamic model, which has been approved by the Regional Water Board.

b. The Harbor Toxics TMDL establishes WLAs for copper, lead, zinc, 4,4'-DDT, and PCBs; WQBELs for these constituent are calculated following the procedures in section 1.4 of the SIP.

c. Since many of the streams in the Region have minimal upstream flows, mixing zones and dilution credits are usually not appropriate. Therefore, in this Order, no dilution credit is included.

WQBELs Calculation Examples

Using total recoverable nickel and total recoverable copper as examples, the following demonstrates how WQBELs were established in this Order. The example of copper indicates how WLAs in the Harbor Toxics TMDL are included in the development of WQBELs. The tables in Attachments J and K summarize the development and calculation of all WQBELs for this Order using the process described below.

The process for developing these limits is in accordance with section 1.4 of the SIP. For non-TMDL constituents, two sets of MDEL values are calculated separately, one set for the protection of aquatic life and the other for the protection of human health. The MDEL limitations for aquatic life and human health are compared; and the most restrictive MDEL is selected as the WQBEL. For Harbor Toxics TMDL constituents, a single set of MDEL values are calculated from the WLA as provided in the TMDL. Attachment J summarizes the development and calculation of all WQBELs for this Order using the process described below.

Concentration-based Effluent Limitations

A set of AMEL and MDEL values are calculated separately, one set for the protection of aquatic life and the other for the protection of human health. The AMEL and MDEL limitations for aquatic life and human health are compared, and the most restrictive AMEL and the most restrictive MDEL are selected as the WQBELs.

Example of Nickel

Calculation of aquatic life AMEL and MDEL for Nickel

Step 1: For each constituent requiring an effluent limit, identify the applicable water quality criteria or objective. For each criterion, determine the effluent concentration allowance (ECA) using the following steady state equation:

$ECA = C + D(C-B)$ when $C>B$, and

$ECA = C$ when $C \leq B$,

Where C = The priority pollutant criterion/objective, adjusted if necessary for hardness, pH and translators. For discharges from the Facility, criteria for saltwater are independent of hardness and pH.

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D = The dilution credit, and
B = The ambient background concentration

As discussed above, this Order does not allow dilution; therefore:

ECA = C

For total recoverable nickel, the applicable ECAs are (reference Table F-6):

ECA_{Acute} = 74.75 µg/L

$ECA_{Chronic}$ = 8.28 µg/L

Step 2: For each ECA based or aquatic life criterion/objective, determine the long-term average discharge condition (LTA) by multiplying the ECA by a factor (multiplier). The multiplier is a statistically based factor that adjusts the ECA to account for effluent variability. The value of the multiplier varies depending on the coefficient of variation (CV) of the data set and whether it is an acute or chronic criterion/objective. Table 1 of the SIP provides pre-calculated values for the multipliers based on the value of the CV. Equations to develop the multipliers in place of using values in the tables are provided in section 1.4, Step 3 of the SIP and will not be repeated here.

$LTA_{acute} = ECA_{acute} \times Multiplier_{acute99}$

$LTA_{chronic} = ECA_{chronic} \times Multiplier_{chronic99}$

The CV for the data set must be determined before the multipliers can be selected and will vary depending on the number of samples and the standard deviation of a data set. If the data set is less than 10 samples, or at least 80% of the samples in the data set are reported as non-detect, the CV shall be set equal to 0.6. It the data set is greater than 10 samples, and at least 20% of the samples in the data set are reported as detected, the CV shall be equal to the standard deviation of the data set divided by the average of the data set. The calculated multipliers are as follows:

No. of Samples	CV	ECA $Multiplier_{acute\ 99}$	ECA $Multiplier_{chronic\ 99}$
82	0.83	0.242	0.430

For total recoverable nickel, the calculated LTAs are:

LTA_{acute} = 74.75 µg/L x 0.242 = 18.1 µg/L

$LTA_{chronic}$ = 8.28 µg/L x 0.464 = 3.56 µg/L

Step 3: Select the most limiting (lowest) of the LTA.

LTA = most limiting of LTA_{acute} or LTA_{acute}

For total recoverable nickel, the most limiting LTA was the $LTA_{chronic}$

LTA_{nickel}= $LTA_{chronic}$ = 3.56 µg/L

Step 4: Calculate the WQBELs by multiplying the LTA by a factor (multiplier). WQBELs are expressed as AMEL and MDEL. The multiplier is a statistically based factor that adjusts the LTA for the averaging periods and exceedance frequencies of the criteria/objectives and the effluent limitations. The value of the multiplier varies depending on the probability basis, the CV of the data set, the number of samples (for AMEL) and whether it is a monthly or daily limit. Table 2 of the SIP provides pre-calculated values for the multipliers based on the value of the CV and the number of samples. Equations to develop the multipliers in place of using values in the tables are provided in section 1.4, Step 5 of the SIP and will not be repeated here.

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$AMEL_{aquatic\ life} = LTA \times AMEL_{multiplier95}$

$MDEL_{aquatic\ life} = LTA \times MDEL_{multiplier99}$

AMEL multipliers are based on a 95th percentile occurrence probability, and the MDEL multipliers are based on the 99th percentile occurrence probability. If the number of samples is less than four (4), the default number of samples to be used is four (4).

For total recoverable nickel, the following data were used to develop the AMEL and MDEL for effluent limitations using equations provided in section 1.4, Step 5 of the SIP (Table 2 of the SIP also provides this data up to two decimals):

No. of Samples Per Month	CV	$Multiplier_{MDEL\ 99}$	$Multiplier_{AMEL\ 95}$
4	0.83	4.13	1.78

For total recoverable nickel:

AMEL = 3.56 µg/L x 1.78 = 6.33 µg/L

MDEL= 3.56 µg/L x 4.13 = 14.7 µg/L

Calculation of human health AMEL and MDEL for Nickel:

Step 5: For the ECA based on human health, set the AMEL equal to the $ECA_{human\ health}$

$AMEL_{human\ health} = ECA_{human\ health}$

For total recoverable nickel:

$AMEL_{human\ health\ (nickel)}$ = 4,600 µg/L

Step 6: Calculate the MDEL for human health by multiplying the AMEL by the ratio of $Multipler_{MDEL}$ to the $Multiplier_{AMEL}$. Table 2 of the SIP provides pre-calculated ratios to be used in this calculation based on the CV and the number of samples.

$MDEL_{human\ health} = AMEL_{human\ health} \times (Multiplier_{MDEL} / Multiplier_{AMEL})$

For total recoverable nickel, the CV of 0.74 was used:

No. of Samples Per Month	CV	$Multiplier_{MDEL\ 99}$	$Multiplier_{AMEL\ 95}$	Ratio
4	0.83	4.13	1.78	2.32

$MDEL_{human\ health}$ = 4,600 µg/L x 2.32 = 10,672 µg/L.

Step 7: Select the lower of the AMEL and MDEL based on aquatic life and human health as the WQBEL for the Order.

For total recoverable nickel, the AMEL and MDEL based on aquatic life criteria are lower and are selected as WQBELs.

Final WQBELs for Nickel:

$AMEL_{nickel}$ = 6.33 µg/L

$MDEL_{nickel}$ = 14.7 µg/L

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Example of Copper

Calculation of aquatic life AMEL and MDEL for Copper

Step 1: For each constituent requiring an effluent limit, identify the applicable water quality criteria or objective. For each criterion, determine the effluent concentration allowance (ECA) using the steady state equation as described in Step 1 for nickel above.

When a WLA has been established through a TMDL for a parameter, the WLA is set equal to the ECA. For total recoverable copper the applicable water quality criterion is from the Harbor Toxics TMDL WLA which is based on chronic aquatic life criterion. Thus, for total recoverable copper, the applicable ECA is (reference Table F-7):

$$ECA = WLA_{\text{Harbor Toxics TMDL/chronic aquatic life}} = 3.73\ \mu g/L$$

Step 2: For each ECA based on aquatic life criterion/objective, determine the long-term average discharge condition (LTA) by multiplying the ECA by a factor (multiplier). Table 1 of the SIP provides pre-calculated values for the multipliers based on the value of the CV. The calculated multipliers are as follows:

No. of Samples	CV	ECA Multiplier$_{\text{acute 99}}$	ECA Multiplier$_{\text{chronic 99}}$
61	0.97	0.209	0.381

For total recoverable copper, the water column concentration-based WLA for total recoverable copper in the Harbor Toxics TMDL is based on the chronic criterion and therefore the chronic multiplier will be used to develop the LTA and effluent limitations.

$$LTA_{chronic} = 3.73\ \mu g/L \times 0.381 = 1.42\ \mu g/L$$

Step 3: Select the most limiting (lowest) of the LTA.

For total recoverable copper, since we are limited to using the chronic aquatic life criterion, the most limiting LTA is $LTA_{chronic}$

$$LTA_{copper} = LTA_{chronic} = 1.42\ \mu g/L$$

Step 4: Calculate the WQBELs by multiplying the LTA by a factor (multiplier). WQBELs are expressed as AMEL and MDEL. The multiplier is a statistically based factor that adjusts the LTA for the averaging periods and exceedance frequencies of the criteria/objectives and the effluent limitations. The value of the multiplier varies depending on the probability basis, the CV of the data set, the number of samples (for AMEL) and whether it is a monthly or daily limit. Table 2 of the SIP provides pre-calculated values for the multipliers based on the value of the CV and the number of samples.

$$AMEL_{\text{aquatic life}} = LTA \times AMEL_{\text{multiplier95}}$$

$$MDEL_{\text{aquatic life}} = LTA \times MDEL_{\text{multiplier99}}$$

AMEL multipliers are based on a 95th percentile occurrence probability, and the MDEL multipliers are based on the 99th percentile occurrence probability. If the number of samples is less than four (4), the default number of samples to be used is four (4).

For total recoverable copper, the following data were used to develop the AMEL and MDEL for effluent limitations using equations provided in section 1.4, Step 5 of the SIP (Table 2 of the SIP also provides this data up to two decimals):

No. of Samples Per Month	CV	Multiplier$_{\text{MDEL 99}}$	Multiplier$_{\text{AMEL 95}}$
4	0.97	4.79	1.92

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For total recoverable copper:

AMEL = 1.42 µg/L x 1.92 = 2.73 µg/L

MDEL = 1.42 µg/L x 4.79 = 6.80 µg/L

Calculation of human health AMEL and MDEL for Copper:

Step 5: For the ECA based on human health, set the AMEL equal to the $ECA_{human\ health}$

$AMEL_{human\ health} = ECA_{human\ health}$

For total recoverable copper, only the aquatic life (TMDL-based) effluent limitations are applicable.

$AMEL_{human\ health\ (copper)} = ECA_{human\ health\ (copper)}$ = Not Available

Step 6: Calculate the MDEL for human health by multiplying the AMEL by the ratio of $Multipler_{MDEL}$ to the $Multiplier_{AMEL}$. Table 2 of the SIP provides pre-calculated ratios to be used in this calculation based on the CV and the number of samples.

$MDEL_{human\ health} = AMEL_{human\ health} \times (Multiplier_{MDEL} / Multiplier_{AMEL})$

For total recoverable copper, $MDEL_{human\ health}$ is not applicable.

Step 7: Select the lower of the AMEL and MDEL based on aquatic life and human health as the WQBEL for the Order.

For copper, lead, and zinc, there are no human health (Consumption of Organism Only) criteria, and WLAs have been established based on the Harbor Toxics TMDL, therefore the established effluent limitations are based on aquatic life criteria used for the Harbor Toxics TMDL WLAs. For 4-4'DDT and total PCBs, there are no aquatic life criteria and WLAs have been established based on the Harbor Toxics TMDL, therefore the established effluent limitations are based on human health criteria used for the Harbor Toxics TMDL WLAs. These limitations are expected to be protective of the beneficial uses.

Final WQBELs for Copper:

$AMEL_{copper}$ = 2.73 µg/L

$MDEL_{copper}$ = 6.80 µg/L

5. WQBELs Based on Basin Plan Objectives

The Basin Plan Objectives applicable to the Discharger are identified in following table. These objectives were evaluated with respect to effluent monitoring data and Facility operations.

Table F-9. Applicable Basin Plan Numeric Water Quality Objectives

Constituent	Units	Water Quality Objective
pH	standard units	The pH of inland surface waters must be between 6.5 and 8.5 at all times and ambient pH shall not be changed more than 0.5 units from natural conditions.
Ammonia	mg/L	1-hour avg. unionized ammonia concentration (mg/L): 0.233 mg/L NH_3 as N [1] 4-hr avg. unionized ammonia concentration (mg/L): 0.035 mg/L NH_3 as N [1]

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Constituent	Units	Water Quality Objective
Bacteria	MPN/ 100 mL	In waters designated for non-water contact recreation (REC-2) and not designated for water contact recreation (REC-1), the fecal coliform concentration shall not exceed a log mean of 2000/100 ml (based on a minimum of not less than four samples for any 30-day period), nor shall more than 10 percent of samples collected during any 30-day period exceed 4000/100 ml.
Dissolved Oxygen	mg/L	The mean annual dissolved oxygen concentration of all waters shall be greater than 7.0 mg/L, and no single determination shall be less than 5.0 mg/L, except when natural conditions cause lesser concentrations.
Total Residual Chlorine	mg/L	Chlorine residual shall not be present in surface water discharges at concentrations that exceed 0.1 mg/L and shall not persist in the receiving waters at any concentration that causes impairment of beneficial uses.
Turbidity	NTU	Where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20%. Where natural turbidity is greater than 50 NTU increases shall not exceed 10%.

1. These objectives have been translated from unionized ammonia to total ammonia according to Basin Plan Implementation Provision 5 (see section IV.C.2. of this Fact Sheet).

a. **pH.** Order R4-2009-0112 contained instantaneous maximum and minimum effluent limitations for pH based on the Basin Plan objectives (6.5 – 8.5). This Order retains the limitations based on Basin Plan objectives.

b. **Ammonia.** The discharge was evaluated for reasonable potential to exceed the Basin Plan objective for ammonia as specified in Resolution No. 2002-011. The toxicity of ammonia to aquatic organisms increases with increasing pH and temperature. In turn, objectives calculated from higher pH and temperature values results in lower (more stringent) objectives. The one-hour ammonia objective was converted to total ammonia using the 90th percentile pH and temperature monitoring results obtained from receiving water Monitoring Location RSW-001. The 4-day average ammonia objective was converted to total ammonia using 5the 0th percentile pH and temperature receiving water data. Since the maximum effluent concentration of ammonia in the sampling events on August 22, 2013 was 3.42 mg/L as N, which is above the calculated objectives, this Order establishes ammonia effluent limitations at Discharge Points 001. In addition, this Order requires the Discharger to conduct ammonia, pH, temperature and salinity monitoring in the receiving water in order to provide data necessary to calculate ammonia objectives and conduct future RPAs.

c. **Bacteria.** This Order contains receiving water limitations for fecal coliform in order to protect the non-contact water recreation (REC-2) beneficial use of the receiving water.

d. **Dissolved Oxygen.** This Order addresses dissolved oxygen through receiving water limitations.

e. **Total Chlorine Residual.** Disinfection of wastewaters with chlorine produces chlorine 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.*" This Order establishes chlorine residual effluent limitations based on the Basin Plan objective.

f. **Turbidity.** This Order applies the water quality objective for turbidity as a receiving water limitation in addition to the technology-based effluent limitation.

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g. **Temperature.** This Order addresses the WQO for temperature, through interpretation of the Thermal Plan and the White Paper, as described in section III.C.2 of this Fact Sheet.

h. **Total Suspended Solids.** The Basin Plan requires that, "Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses." This narrative objective has been translated into a numeric effluent limit, based on U.S.EPA's Quality Criteria for Water (commonly known as the "Gold Book"). In the Gold Book, U.S.EPA notes that "In a study downstream from a discharge where inert suspended solids were increased to 80 mg/L, the density of macroinvertebrates decreased by 60 percent…". This indicates that suspended solids concentrations of 80 mg/L in the receiving water resulted in adverse effects to aquatic life. As such, the Regional Water Board implemented an MDEL of 75 mg/L for the implementation of the narrative water quality objective for solids. This limitation along with the AMEL for total suspended solids are consistent with the limitations in Order No. R4-2009-0112 and they are retained as the technology-based effluent limitations.

6. Whole Effluent Toxicity (WET)

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative "no toxics in toxic amounts" criterion while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

The Basin Plan specifies a narrative objective for toxicity, requiring that all waters be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental responses by aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota.

In addition to the Basin Plan requirements, Section 4 of the SIP states that a chronic toxicity effluent limitation is required in permits for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters. The chronic toxicity monitoring results at Discharge Point 001 during the last permit term exceeded 1 TUc trigger on several occasions; that demonstrated the reasonable potential to contribute chronic toxicity in receiving waters. A chronic toxicity effluent limitation is included in this Order to ensure that the receiving water meets the Basin Plan narrative water quality objective for toxicity.

Chronic toxicity is a more stringent requirement than acute toxicity. A chemical at a low concentration can have chronic effects but no acute effects. Order No. R4-2009-0112 included an effluent limitation for acute toxicity. The chronic toxicity limitation in this Order replaces the previous acute toxicity limit. For the discharge covered under this Order, the chronic toxicity limit provides a higher level of protection than the acute toxicity limitation.

In 2010, USEPA endorsed the peer-reviewed Test of Significant Toxicity (TST) approach in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) as an improved hypothesis-testing

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tool to evaluate data from USEPA's toxicity test methods. The TST hypothesis testing approach more reliably identifies toxicity—in relation to the chronic (0.25 or more) and acute (0.20 or more) mean responses of regulatory management concern—than the current no observed effect concentration (NOEC) hypothesis-testing approach. TST results are also more transparent than the point estimate model approach used for acute toxicity that is not designed to address the question of statistical uncertainty around the modeled toxicity test result in relation to the effect level of concern. The TST is the superior approach for addressing statistical uncertainty when used in combination with USEPA's toxicity test methods and is implemented in federal permits issued by USEPA Region 9.

The TST's null hypothesis for chronic toxicity is:

H_0: Mean response (In-stream Waste Concentration (IWC) in % effluent)

≤ 0.75 mean response (Control).

Results obtained from the chronic toxicity test are analyzed using the TST approach and an acceptable level of chronic toxicity is demonstrated by rejecting the null hypothesis and reporting "Pass" or "P".

The chronic toxicity IWCs for Discharge Points 001 are 100/(0+1) = 100 percent effluent.

The MDEL for chronic toxicity is exceeded and a violation will be flagged when a chronic toxicity test, analyzed using the TST 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 up to three independent chronic toxicity tests, conducted within the same calendar month and analyzed using the TST approach, results in "Fail". 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 are required when one toxicity test results in "Fail".

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D. Final Effluent Limitation Considerations

1. Anti-Backsliding Requirements

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 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 permit, with the exception of effluent limitations for arsenic, cadmium, mercury, selenium, nickel, copper, lead, zinc, and acute toxicity.The effluent limitations for these pollutants are less strinent than those in the previous permit. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

CWA section 402(o)(2)(B) states that effluent limitations may be less stringent in instances when information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance. For arsenic, cadmium, mercury, and selenium, recent effluent monitoring data collected from February 2010 through May 2015 was evaluated for reasonable potential in accordance with SIP procedures. The results based on this recent data set indicated there was no reasonable potential for the Facility's discharges to cause or contribute to an exceedance of a water quality objective for these pollutants. Therefore, effluent limitations for arsenic, cadmium, mercury, and selenium are not included in this Order.

The relaxation of the maximum daily effluent limitation for nickel from 14 mg/L to 15 mg/L was the result of the effluent limitation calculation based on the new data set.

The effluent limitations for copper, lead, and zinc implement the WLAs established in the Harbor Toxics TMDL. As such, the relaxation of maximum daily effluent limitations for these pollutants is consistent with CWA section 303(d)(4)(A), which allows for the establishment of a less stringent effluent limitation based on a TMDL WLA when the receiving water has been identified as not meeting applicable water quality standards (i.e., a nonattainment water) and the TMDL WLA is part of an overall strategy for achieving attainment.

Order R4-2009-0112 also contained an acute toxicity effluent limitation in accordance with the Basin Plan's narrative objective for toxicity. This Order includes a chronic toxicity effluent limitation that is assessed using the TST approach which, under this testing framework, is protective of the Basin Plan's narrative objective for toxicity. The chronic toxicity effluent limitation is actually more stringent than the acute toxicity effluent limitation. Therefore, the acute toxicity effluent limitation contained in the previous permit has not been retained in this Order.

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2. Antidegradation Policies

Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16. Resolution 68-16 incorporates 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. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge.

As discussed in section IV.C.D.1 above (Anti-Backsliding Requirements), this Order does not include effluent limitations for arsenic, cadmium, mercury, and selenium. Effluent monitoring data indicates these substances are no longer present in the discharge at concentrations that demonstrate reasonable potential to cause or contribute to an exceedance of water quality objectives for these pollutants. Further, the effluent limitations for copper, lead, and zinc in this Order implement WLAs in the Harbor Toxics TMDL, the purpose of which is to birng the waterbody into attainment with water quality standards. This Order also does not provide for an increase in the permitted design flow or allow for a reduction in the level of treatment. The final effluent limitations in this Order, which include concentration based and mass based effluent limitations, hold the discharger to performance levels that will not cause or contribute to water quality impairment or degradation of water quality. Therefore, the permitted discharge is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations applicable to Discharge Point 001 consist of restrictions on BOD, oil and grease, TSS, settleable solids, and turbidity. Restrictions on these pollutants are discussed in Section IV.B of the Fact Sheet. This Order's technology-based pollutant restrictions are based on BPJ and implement the minimum, applicable federal technology-based requirements.

Water quality-based effluent limitations have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR implemented by the SIP, which was approved by USEPA on May 18, 2000. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 C.F.R. section 131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this Order, especially ammonia, were approved by USEPA on May 19, 2005, and are applicable water quality standards pursuant to section 131.21(c)(2). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

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4. Summary of Final Effluent Limitations

Table F-10. Summary of Final Effluent Limitations at Discharge Point 001

Parameter	Units	Effluent Limitations			Perf. Goals[3]	Basis[1]
		Average Monthly	Maximum Daily	Instantaneous Minimum/Maximum		
BOD@20ºC)	mg/L	20	30	--	--	E, BPJ
	lbs/day[2]	710	1,100	--	--	
pH	s. u.	--	--	6.5 / 8.5	--	E, BP
Oil and Grease	mg/L	10	15	--	--	E, BPJ
	lbs/day[2]	360	540	--	--	
Total Suspended Solids (TSS)	mg/L	50	75	--	--	E, BPJ
	lbs/day[2]	1,800	2,700	--	--	
Settleable Solids	mL/L	0.1	0.3	--	--	E, BPJ
Turbidity	NTU	50	75	--	--	E, BPJ
Temperature	°F	--	--	86 (Maximum)	--	E, BP, TP
Ammonia Nitrogen, Total (as N)	mg/L	0.73	1.8	--	--	BP
	lbs/day[2]	26	65	--	--	
Total Residual Chlorine	mg/L	--	--	0.1 (Maximum)	--	BP
Chronic Toxicity[4]	Pass or Fail, % Effect	Pass	Pass or % Effect <50	--	--	BPJ, TST
Copper, Total Recoverable[5]	µg/L	2.7	6.8	--	--	TMDL, SIP
	lbs/day[2]	0.097	0.24	--	--	
Lead, Total Recoverable[5]	µg/L	6.0	16	--	--	TMDL, SIP
	lbs/day[2]	0.22	0.57	--	--	
Nickel, Total Recoverable[9]	µg/L	6.3	15	--	--	CTR, SIP
	lbs/day[2]	0.24	0.54	--	--	

Parameter	Units	Effluent Limitations			Perf. Goals[3]	Basis[1]
		Average Monthly	Maximum Daily	Instantaneous Minimum/Maximum		
Zinc, Total Recoverable[5]	µg/L	59	158	--	--	TMDL, SIP
	lbs/day[2]	2.1	5.7	--	--	
TCDD-Equivalents[9]	µg/L	1.4×10^{-8}	2.8×10^{-8}	--	--	CTR, SIP
	lbs/day[2]	5.0×10^{-10}	1.0×10^{-9}	--	--	
Benzo(a) Pyrene[5, 6]	µg/L	--	--	--	0.049 [7]	TMDL, SIP
Chrysene[5, 6]	µg/L	--	--	--	0.049 [7]	TMDL, SIP
4,4'-DDT[5, 6]	µg/L	0.00059	0.0012	--	--	TMDL, SIP
	lbs/day[2]	2.1×10^{-5}	4.3×10^{-5}	--	--	
PCBs[5, 6, 8]	µg/L	0.00017	0.00034	--	--	TMDL, SIP
	lbs/day[2]	6.1×10^{-6}	1.2×10^{-5}	--	--	

1. E = Existing Order; BP = Basin Plan; TP = Thermal Plan; TMDL = Total Maximum Daily Load; CTR = California Toxics Rule; SIP = State Implementation Policy
2. Mass limitations are based on the permitted flow rate of 4.3 MGD applicable at Discharge Point 001 and are calculated as follows:
   Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day.
3. Performance Goals are intended to ensure that effluent concentrations and mass discharges do not exceed levels currently achieved by the permitted facility that are protective of water quality. These performance goals are not considered as limitations or standards for the regulation of the facility. They act as triggers to determine when effluent sediment monitoring is required for this category of pollutants.
4. The maximum daily effluent limitation (MDEL) is exceeded when a toxicity test results in a "fail," and the percent effect is greater than or equal to 0.50. The median monthly effluent limitation (MMEL) is exceeded when the median result (i.e. two out of three) is a "fail."
5. During each reporting period, if effluent monitoring results exceed both a TSS effluent limit and a CTR TMDL-based effluent limit or performance goal for copper, lead, zinc, 4,4'-DDT, total PCBs, benzo(a)pyrene, or chrysene, implementation of the effluent sediment monitoring program is required for that priority pollutant. The effluent sediment monitoring shall begin during the first discharge event following the effluent exceedance. An effluent sediment monitoring result at or below the interim sediment allocations in Table 5 of this Order, demonstrates attainment with the applicable sediment allocation and additional sediment monitoring of the effluent is not required. A sediment monitoring result that exceeds the interim sediment allocation requires additional sediment monitoring of the effluent during discharge but not more frequently than once per year until the three-year average concentration for sediment monitoring results is at or below the interim sediment allocation.
6. Samples analyzed must be unfiltered samples.
7. CTR human health criteria were not established for total PAHs. Therefore, the performance goals are based on the CTR human health criteria for the individual PAHs; benzo(a)pyrene and chrysene. The benzo(a)pyrene and chrysene were selected because the State's 2010 303(d) List classifies the Los Angeles/Long Beach Inner Harbor as impaired for these PAH compounds.
8. Total PCBs (polychlorinated biphenyls) means the sum of chlorinated biphenyls whose analytical characteristics resembles those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.
9. The effluent limitation is based on CTR salt water criteria and calculated using CTR-SIP procedures.

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications – Not Applicable

G. Recycling Specifications – Not Applicable

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V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

The Basin Plan contains numeric and narrative water quality objectives applicable to all surface waters within the Los Angeles Region. Water quality objectives include an objective to maintain the high quality waters pursuant to federal regulations (40 C.F.R. section 131.12) and State Water Board Resolution No. 68-16. Receiving water limitations in this Order are included to ensure protection of beneficial uses of the receiving water. If there is a reasonable potential or a USEPA-approved TMDL WLA, then WQBELs are included in this Order to ensure protection of water quality standards.

B. Groundwater – Not Applicable

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Sections 122.41(a)(1) and (b) through (n) of 40 C.F.R. 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. Section 123.25(a)(12) of 40 C.F.R. allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

These provisions are based on 40 C.F.R. part 123 of and the previous Order. The Regional Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new federal regulations, modification in toxicity requirements, or adoption of new regulations by the State Water Board or Regional Water Board, including revisions to the Basin Plan or revisions to the Harbor Toxics TMDL, or submittal of a request for modification by the Discharger.

2. Special Studies and Additional Monitoring Requirements

a. **Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan.** This provision is based on section 4 of the SIP, Toxicity Control Provisions, which establishes minimum toxicity control requirements for implementing the narrative toxicity objective for aquatic life protection established in the basin plans of the State of California.

b. **Monitoring Thresholds based on Sediment Interim Concentration-based Allocations in the Harbor Toxics TMDL for Sediment Monitoring of the Effluent.** This Order implements the Harbor Toxics TMDL's interim sediment allocations (Greater Harbor Waters) for copper, lead, zinc, DDT, PAHs, and PCBs as monitoring thresholds. Attainment with these thresholds shall be demonstrated in

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accordance with Footnote 4 to Table 4 of this Order which includes effluent limits for TSS and the targeted pollutants. If there is a discharge, the permittee is required to collect sufficient sample at least once during the permit term to analyze the sediment in the effluent directly. Regardless of these monitoring thresholds, the Discharger shall ensure that effluent concentrations and mass discharges do not exceed levels that can be attained by performance of the Facility's treatment technologies existing at the time of permit issuance, reissuance, or modification.

c. **Harbor Toxics TMDL Water Column, Sediment, and Fish Tissue Monitoring for the Greater Los Angeles and Long Beach Harbor Waters Compliance Monitoring Program.** This provision implements the Compliance Monitoring Program as required in the Harbor Toxics TMDL. The Compliance Monitoring Program includes water column monitoring, sediment monitoring and fish tissue monitoring at monitoring stations in Table 6 (Sediment Chemistry Monitoring Requirements) of the Order. The Discharger may join a collaborating group or develop a site specific plan to comply with this requirement.

3. Best Management Practices and Pollution Prevention

a. **Storm Water Pollution Prevention Plan (SWPPP).** This provision is based on section 122.44(k) and includes the requirement to update and implement a SWPPP.

b. **Best Management Practices Plan (BMPP).** Order No. R4-2009-0073 required the Discharger to develop and implement BMPs in order to reduce the amount of pollutants entering the discharge. This Order requires the Discharger to update and continue to implement the BMPP. The BMPP may be included as a component of the SWPPP. The purpose of the BMPP is to establish site-specific procedures that ensure proper operation and maintenance of equipment, to ensure that unauthorized non-storm water discharges (i.e., spills) do not occur at the Facility.

The Harbor Toxics TMDL addresses BMPs as follows:

> "*When permits for responsible parties are revised, the permits should provide mechanisms to make adjustments to the required BMPs as necessary to ensure their adequate performance. If proposed structural and non-structural BMPs adequately implement the WLAs then additional controls will not be necessary. Alternatively, if the proposed structural and non-structural BMPs selected prove to be inadequate then additional structural and non-structural BMPs or additional controls may be required.*"

Special Provision VI.C.3.a requires the Discharger to update and maintain a BMPP that incorporates requirements contained in Appendix G. Appendix G requires a discussion on the effectiveness of each BMP to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Considering that discharges are infrequent, Special Provision VI.C.3.a and Appendix G requirements satisfy the TMDL component to address BMP performance for this Facility.

c. **Spill Contingency Plan (SCP).** This Order requires the Discharger to update and continue to implement a SCP to control the discharge of pollutants. The SCP shall include a technical report on the preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events at the site. This provision is included in this Order to minimize and control the amount of pollutants discharged in case of a spill. The SCP shall be site specific and shall cover all areas of the Facility.

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4. Construction, Operation, and Maintenance Specifications

a. This provision is based on the requirements of 40 C.F.R. section 122.41(e).

5. Other Special Provisions – Not Applicable

6. Compliance Schedules – Not Applicable

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 C.F.R. sections 122.41(h), (j)-(*l*), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (MRP), Attachment E, establishes monitoring and reporting 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 – Not Applicable

B. Effluent Monitoring

1. Monitoring has been established at Discharge Point 001 (Monitoring Location EFF-001) for pollutants with effluent limitations. Effluent monitoring has been established with continuous (i.e., temperature), daily (i.e., pH and total residual chlorine), monthly (i.e., BOD_5, oil and grease, TSS, and turbidity, settleable solids, copper, lead, nickel, zinc, benzo(a) pyrene, chrysene, 4,4'-DDT, and PCBs), quarterly (i.e., total coliform, fecal coliform, *Enterococcus*, chronic toxicity, and total ammonia), and semi-annual frequencies (i.e., TCDD-equivalents). Monitoring for these parameters are necessary to determine compliance with effluent limitations and to provide data for evaluating reasonable potential for the discharge to cause or contribute to an exceedance of applicable water quality objectives during future permit reissuances.

2. Monitoring for all priority pollutants not possessing effluent limitations shall be conducted once per year during the permit term. Data generated from this monitoring is necessary for evaluating reasonable potential for the new discharge to cause or contribute to an exceedance of applicable water quality objectives contained in the SIP during future permit reissuances.

3. Monitoring requirements for MBAS, MTBE, salinity, TPH as gasoline, TPH as diesel, and TPH as kerosene have been retained from Order R4-2009-0112 as these are pollutants of concern with respect to stormwater and ground water discharges which may be impacted by the near-by tank farm.

4. As required in the MRP section IV.A.2, the discharge must collect sufficient sample volume during at leat one sample event per permit term, to conduct sediment (effluent TSS) monitoring. This requirement is necessary to accurately characterize the sediment discharged from the Facility. This monitoring is required only if the effluent monitoring does not trigger sediment monitoring during the five year permit term.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth. Chronic toxicity is a more stringent requirement that acute toxicity. A chemical at a low concentration can have chronic effects but no acute effects. For this permit, chronic toxicity in the discharge is limited and evaluated using USEPA's 2010 TST hypothesis approach.

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D. Receiving Water Monitoring

1. Surface Water

Monitoring requirements are included in the MRP (Attachment E) to determine compliance with the receiving water limitations established in Limitations and Discharge Requirements, Receiving Water Limitations, Section V.A. Receiving water monitoring requirements included Order R4-2009-0112 have been retained without modification.

This Order implements the revised ammonia water quality objectives which are expressed as un-ionized ammonia. Since the equation for conversion of unionized ammonia objectives to total ammonia objectives relies on pH, temperature and salinity, this Order includes monitoring requirements for these parameters. This Order also includes annual monitoring for the CTR pollutants in order to obtain the receiving water data as background information for the determination of reasonable potential.

2. Groundwater – Not Applicable

E. Harbor Toxics TMDL Monitoring

This Order contains water column monitoring, water sediment monitoring, and fish tissue monitoring which is necessary to comply with requirement contained in the Harbor Toxics TMDL.

F. Other Monitoring Requirements

1. Chemical Use Report

This Order retains chemical use reporting requirements contained in Order R4-2009-0112. This reporting is necessary in order to identify pollutants of concern and ascertain whether the discharge presents a potential to cause or contribute to an excursion above water quality standards.

2. Regional Monitoring

To implement the Harbor Toxics TMDL, the Discharger is encouraged to participate in the development of Regional Monitoring program(s) to address pollutants as specified in the Harbor Toxics TMDL.

VIII. PUBLIC PARTICIPATION

The Regional Water Board has considered the issuance of WDRs that will serve as an NPDES permit for the Facility. 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 Discharger 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 to all interested parties.

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 electronically at losangeles@waterboards.ca.gov with a copy to JauRen.Chen@waterboards.ca.gov

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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 **January 12, 2016.**

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:	February 11, 2016
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.

Please be aware that dates and venues may change. Our Web address is http://www.waterboards.ca.gov/losangeles where you can access the current agenda for changes in dates and locations.

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 Report of Waste Discharge, 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 Regional Water Board.

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 Jau Ren Chen at (213) 576-6656.

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ATTACHMENT G – STORM WATER POLLUTION PREVENTION PLAN REQUIREMENTS

I. IMPLEMENTATION SCHEDULE

A storm water pollution prevention plan (SWPPP) shall be developed and submitted to the Regional Water Board within 90 days following the adoption of this Order. The SWPPP shall be implemented for each facility covered by this Permit within 10 days of approval from the Regional Water Board, or 6-months from the date of the submittal of the SWPPP to the Regional Water Board (whichever comes first).

II. OBJECTIVES

The SWPPP has two major objectives: (a) to identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of storm water discharges and authorized non-storm water discharges from the facility; and (b) to identify and implement site-specific best management practices (BMPs) to reduce or prevent pollutants associated with industrial activities in storm water discharges and authorized non-storm water discharges. BMPs may include a variety of pollution prevention measures or other low-cost and pollution control measures. They are generally categorized as non-structural BMPs (activity schedules, prohibitions of practices, maintenance procedures, and other low-cost measures) and as structural BMPs (treatment measures, run-off controls, overhead coverage.) To achieve these objectives, facility operators should consider the five phase process for SWPPP development and implementation as shown in Table A.

The SWPPP requirements are designed to be sufficiently flexible to meet the needs of various facilities. SWPPP requirements that are not applicable to a facility should not be included in the SWPPP.

A facility's SWPPP is a written document that shall contain a compliance activity schedule, a description of industrial activities and pollutant sources, descriptions of BMPs, drawings, maps, and relevant copies or references of parts of other plans. The SWPPP shall be revised whenever appropriate and shall be readily available for review by facility employees or Regional Water Board inspectors.

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III. PLANNING AND ORGANIZATION

A. Pollution Prevention Team

The SWPPP shall identify a specific individual or individuals and their positions within the facility organization as members of a storm water pollution prevention team responsible for developing the SWPPP, assisting the facility manager in SWPPP implementation and revision, and conducting all monitoring program activities required in Attachment E of this Permit. The SWPPP shall clearly identify the Permit related responsibilities, duties, and activities of each team member. For small facilities, storm water pollution prevention teams may consist of one individual where appropriate.

B. Review Other Requirements and Existing Facility Plans

The SWPPP may incorporate or reference the appropriate elements of other regulatory requirements. Facility operators should review all local, State, and Federal requirements that impact, complement, or are consistent with the requirements of this General permit. Facility operators should identify any existing facility plans that contain storm water pollutant control measures or relate to the requirements of this Permit. As examples, facility operators whose facilities are subject to Federal Spill Prevention Control and Countermeasures' requirements should already have instituted a plan to control spills of certain hazardous materials. Similarly,

facility operators whose facilities are subject to air quality related permits and regulations may already have evaluated industrial activities that generate dust or particulates.

IV. SITE MAP

The SWPPP shall include a site map. The site map shall be provided on an 8-½ x 11 inch or larger sheet and include notes, legends, and other data as appropriate to ensure that the site map is clear and understandable. If necessary, facility operators may provide the required information on multiple site maps.

TABLE A
FIVE PHASES FOR DEVELOPING AND IMPLEMENTING INDUSTRIAL STORM WATER POLLUTION PREVENTION PLANS

PLANNING AND ORGANIZATION Form Pollution Prevention Team Review other plans

ASSESSMENT PHASE Develop a site map Identify potential pollutant sources Inventory of materials and chemicals List significant spills and leaks Identify non-storm water discharges Assess pollutant risks

BEST MANAGEMENT PRACTICES IDENTIFICATION PHASE Non-structural BMPs Structural BMPs Select activity and site-specific BMPs

IMPLEMENTATION PHASE Train employees Implement BMPs Conduct recordkeeping and reporting

EVALUATION / MONITORING Conduct annual site evaluation Review monitoring information Evaluate BMPs Review and revise SWPPP

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The following information shall be included on the site map:

A. The facility boundaries; the outline of all storm water drainage areas within the facility boundaries; portions of the drainage area impacted by run-on from surrounding areas; and direction of flow of each drainage area, on-site surface water bodies, and areas of soil

erosion. The map shall also identify nearby water bodies (such as rivers, lakes, and ponds) and municipal storm drain inlets where the facility's storm water discharges and authorized non-storm water discharges may be received.

B. The location of the storm water collection and conveyance system, associated points of discharge, and direction of flow. Include any structural control measures that affect storm water discharges, authorized non-storm water discharges, and run-on. Examples of structural control measures are catch basins, berms, detention ponds, secondary containment, oil/water separators, diversion barriers, etc.

C. An outline of all impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures.

D. Locations where materials are directly exposed to precipitation and the locations where significant spills or leaks identified in section VI.A.4. below have occurred.

E. Areas of industrial activity. This shall include the locations of all storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and rinsing areas, and other areas of industrial activity which are potential pollutant sources.

V. LIST OF SIGNIFICANT MATERIALS

The SWPPP shall include a list of significant materials handled and stored at the site. For each material on the list, describe the locations where the material is being stored, received, shipped, and handled, as well as the typical quantities and frequency. Materials shall include raw materials, intermediate products, final or finished products, recycled materials, and waste or disposed materials.

VI. DESCRIPTION OF POTENTIAL POLLUTANT SOURCES

A. The SWPPP shall include a narrative description of the facility's industrial activities, as identified in section IV.E. above, associated potential pollutant sources, and potential pollutants that could be discharged in storm water discharges or authorized non-storm water discharges. At a minimum, the following items related to a facility's industrial activities shall be considered:

a. **Industrial Processes.** Describe each industrial process, the type, characteristics, and quantity of significant materials used in or resulting from the process, and a description of the manufacturing, cleaning, rinsing, recycling, disposal, or other activities related to the process. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

b. **Material Handling and Storage Areas.** Describe each handling and storage area, type, characteristics, and quantity of significant materials handled or stored, description of the shipping, receiving, and loading procedures, and the spill or leak prevention and response procedures. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

c. **Dust and particulate Generating Activities.** Describe all industrial activities that generate dust or particulates that may be deposited within the facility's boundaries and identify their discharge locations; the characteristics of dust and particulate pollutants; the approximate quantity of dust and particulate pollutants that may be deposited within the facility boundaries; and a description of the primary areas of the facility where dust and particulate pollutants would settle.

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d. **Significant Spills and Leaks.** Describe materials that have spilled or leaked in significant quantities in storm water discharges or non-storm water discharges since April 17, 1994. Include toxic chemicals (listed in 40 C.F.R. part 302) that have been discharged to storm water as reported on U.S. Environmental Protection Agency (USEPA) Form R, and oil and hazardous substances in excess of reportable quantities (see 40 Code of Federal Regulations [C.F.R.] parts 110, 117, and 302).

The description shall include the type, characteristics, and approximate quantity of the material spilled or leaked, the cleanup or remedial actions that have occurred or are planned, the approximate remaining quantity of materials that may be exposed to storm water or non-storm water discharges, and the preventative measures taken to ensure spill or leaks do not reoccur. Such list shall be updated as appropriate during the term of this Permit.

e. **Non-Storm Water Discharges.** Facility operators shall investigate the facility to identify all non-storm water discharges and their sources. As part of this investigation, all drains (inlets

and outlets) shall be evaluated to identify whether they connect to the storm drain system.

All non-storm water discharges shall be described. This shall include the source, quantity, frequency, and characteristics of the non-storm water discharges and associated drainage area.

Non-storm water discharges that contain significant quantities of pollutants or that do not meet the conditions provided in Special Conditions D of the storm water general permit are prohibited by this Permit (Examples of prohibited non-storm water discharges are contact and non-contact cooling water, rinse water, wash water, etc.). Non-storm water discharges that meet the conditions provided in Special Condition D of the general storm water permit are authorized by this Permit. The SWPPP must include BMPs to prevent or reduce contact of non-storm water discharges with significant materials or equipment.

f. **Soil Erosion.** Describe the facility locations where soil erosion may occur as a result of industrial activity, storm water discharges associated with industrial activity, or authorized non-storm water discharges.

B. The SWPPP shall include a summary of all areas of industrial activities, potential pollutant sources, and potential pollutants. This information should be summarized similar to Table B. The last column of Table B, "Control Practices", should be completed in accordance with section VIII. below.

VII. ASSESSMENT OF POTENTIAL POLLUTANT SOURCES

A. The SWPPP shall include a narrative assessment of all industrial activities and potential pollutant sources as described in section VI above to determine:

1. Which areas of the facility are likely sources of pollutants in storm water discharges and authorized non-storm water discharges, and

2. Which pollutants are likely to be present in storm water discharges and authorized non-storm water discharges. Facility operators shall consider and evaluate various factors when performing this assessment such as current storm water BMPs; quantities of significant materials handled, produced, stored, or disposed of; likelihood of exposure to storm water or authorized non-storm water discharges; history of spill or leaks; and run-on from outside sources.

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B. Facility operators shall summarize the areas of the facility that are likely sources of pollutants and the corresponding pollutants that are likely to be present in storm water discharges and authorized non-storm water discharges.

Facility operators are required to develop and implement additional BMPs as appropriate and necessary to prevent or reduce pollutants associated with each pollutant source. The BMPs will be narratively described in section VIII below.

VIII. STORM WATER BEST MANAGEMENT PRACTICES

The SWPPP shall include a narrative description of the storm water BMPs to be implemented at the facility for each potential pollutant and its source identified in the site assessment phase (sections VI and VII above). The BMPs shall be developed and implemented to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Each pollutant and its source may require one or more BMPs. Some BMPs may be implemented for multiple pollutants and their sources, while other BMPs will be implemented for a very specific pollutant and its source.

TABLE B

EXAMPLE
ASSESSMENT OF POTENTIAL POLLUTION SOURCES AND CORRESPONDING BEST MANAGEMENT PRACTICES SUMMARY

Area	Activity	Pollutant Source	Pollutant	Best Management Practices
Vehicle & Equipment Fueling	Fueling	Spills and leaks during delivery. Spills caused by topping off fuel tanks. Hosing or washing down fuel oil fuel area. Leaking storage tanks. Rainfall running off fuel oil, and rainfall running onto and off fueling area.	fuel oil	Use spill and overflow protection. Minimize run-on of storm water into the fueling area. Cover fueling area. Use dry cleanup methods rather than hosing down area. Implement proper spill prevention control program. Implement adequate preventative maintenance program to preventive tank and line leaks. Inspect fueling areas regularly to detect problems before they occur. Train employees on proper fueling, cleanup, and spill response techniques.

The description of the BMPs shall identify the BMPs as (1) existing BMPs, (2) existing BMPs to be revised and implemented, or (3) new BMPs to be implemented. The description shall also include a discussion on the effectiveness of each BMP to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. The SWPPP shall provide a summary of all BMPs implemented for each pollutant source. This information should be summarized similar to Table B.

Facility operators shall consider the following BMPs for implementation at the facility:

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A. Non-Structural BMPs

Non-structural BMPs generally consist of processes, prohibitions, procedures, schedule of activities, etc., that prevent pollutants associated with industrial activity from contacting with storm water discharges and authorized non-storm water discharges. They are considered low technology, cost-effective measures. Facility operators should consider all possible non-structural BMPs options before considering additional structural BMPs (see section VIII.B. below). Below is a list of non-structural BMPs that should be considered:

1. **Good Housekeeping.** Good housekeeping generally consists of practical procedures to maintain a clean and orderly facility.
2. **Preventive Maintenance.** Preventive maintenance includes the regular inspection and maintenance of structural storm water controls (catch basins, oil/water separators, etc.) as well as other facility equipment and systems.
3. **Spill Response.** This includes spill clean-up procedures and necessary clean-up equipment based upon the quantities and locations of significant materials that may spill or leak.
4. **Material Handling and Storage.** This includes all procedures to minimize the potential for spills and leaks and to minimize exposure of significant materials to storm water and authorized non-storm water discharges.
5. **Employee Training.** This includes training of personnel who are responsible for (1) implementing activities identified in the SWPPP, (2) conducting inspections, sampling, and visual observations, and (3) managing storm water. Training should address topics such as spill response, good housekeeping, and material handling procedures, and actions necessary to implement all BMPs identified in the SWPPP. The SWPPP shall identify periodic dates for such training. Records shall be maintained of all training sessions held.
6. **Waste Handling/Recycling.** This includes the procedures or processes to handle, store, or dispose of waste materials or recyclable materials.
7. **Recordkeeping and Internal Reporting.** This includes the procedures to ensure that all records of inspections, spills, maintenance activities, corrective actions, visual observations, etc., are developed, retained, and provided, as necessary, to the appropriate facility personnel.
8. **Erosion Control and Site Stabilization.** This includes a description of all sediment and erosion control activities. This may include the planting and maintenance of vegetation, diversion of run-on and runoff, placement of sandbags, silt screens, or other sediment control devices, etc.
9. **Inspections.** This includes, in addition to the preventative maintenance inspections identified above, an inspection schedule of all potential pollutant sources. Tracking and follow-up procedures shall be described to ensure adequate corrective actions are taken and SWPPPs are made.
10. **Quality Assurance.** This includes the procedures to ensure that all elements of the SWPPP and Monitoring Program are adequately conducted.

B. Structural BMPs

Where non-structural BMPs as identified in section VIII.A. above are not effective, structural BMPs shall be considered. Structural BMPs generally consist of structural devices that reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Below is a list of structural BMPs that should be considered:

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1. **Overhead Coverage.** This includes structures that provide horizontal coverage of materials, chemicals, and pollutant sources from contact with storm water and authorized non-storm water discharges.
2. **Retention Ponds.** This includes basins, ponds, surface impoundments, bermed areas, etc. that do not allow storm water to discharge from the facility.
3. **Control Devices.** This includes berms or other devices that channel or route run-on and runoff away from pollutant sources.
4. **Secondary Containment Structures.** This generally includes containment structures around storage tanks and other areas for the purpose of collecting any leaks or spills.
5. **Treatment.** This includes inlet controls, infiltration devices, oil/water separators, detention ponds, vegetative swales, etc. that reduce the pollutants in storm water discharges and authorized non-storm water discharges.

IX. ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION

The facility operator shall conduct one comprehensive site compliance evaluation (evaluation) in each reporting period (July 1-June 30). Evaluations shall be conducted within 8-16 months of each other. The SWPPP shall be revised, as appropriate, and the revisions implemented within 90 days of the evaluation. Evaluations shall include the following:

A. A review of all visual observation records, inspection records, and sampling and analysis results.

B. A visual inspection of all potential pollutant sources for evidence of, or the potential for, pollutants entering the drainage system.

C. A review and evaluation of all BMPs (both structural and non-structural) to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed. A visual inspection of equipment needed to implement the SWPPP, such as spill response equipment, shall be included.

D. An evaluation report that includes, (i) identification of personnel performing the evaluation, (ii) the date(s) of the evaluation, (iii) necessary SWPPP revisions, (iv) schedule, as required in section X.E., for implementing SWPPP revisions, (v) any incidents of non-compliance and the corrective actions taken, and (vi) a certification that the facility operator is in compliance with this Permit. If the above certification cannot be provided, explain in the evaluation report why the facility operator is not in compliance with this General Permit. The evaluation report shall be submitted as part of the annual report, retained for at least five years, and signed and certified in accordance with Standard Provisions V.D.5 of Attachment D.

X. SWPPP GENERAL REQUIREMENTS

A. The SWPPP shall be retained on site and made available upon request of a representative of the Regional Water Board and/or local storm water management agency (local agency) which receives the storm water discharges.

B. The Regional Water Board and/or local agency may notify the facility operator when the SWPPP does not meet one or more of the minimum requirements of this section. As requested by the Regional Water Board and/or local agency, the facility operator shall submit an SWPPP revision and implementation schedule that meets the minimum requirements of this section to the Regional Water Board and/or local agency that requested the SWPPP revisions. Within 14 days after implementing the required SWPPP revisions, the facility operator shall provide written certification to the Regional Water Board and/or local agency that the revisions have been implemented.

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C. The SWPPP shall be revised, as appropriate, and implemented prior to changes in industrial activities which (i) may significantly increase the quantities of pollutants in storm water discharge, (ii) cause a new area of industrial activity at the facility to be exposed to storm water, or (iii) begin an industrial activity which would introduce a new pollutant source at the facility.

D. The SWPPP shall be revised and implemented in a timely manner, but in no case more than 90 days after a facility operator determines that the SWPPP is in violation of any requirement(s) of this Permit.

E. When any part of the SWPPP is infeasible to implement due to proposed significant structural changes, the facility operator shall submit a report to the Regional Water Board prior to the applicable deadline that (i) describes the portion of the SWPPP that is infeasible to implement by the deadline, (ii) provides justification for a time extension, (iii) provides a schedule for completing and implementing that portion of the SWPPP, and (iv) describes the BMPs that will be implemented in the interim period to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Such reports are subject to Regional Water Board approval and/or modifications. Facility operators shall provide written notification to the Regional Water Board within 14 days after the SWPPP revisions are implemented.

F. The SWPPP shall be provided, upon request, to the Regional Water Board. The SWPPP is considered a report that shall be available to the public by the Regional Water Board under Section 308(b) of the Clean Water Act.

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ATTACHMENT H – STATE WATER BOARD MINIMUM LEVELS

The Minimum Levels (MLs) in micrograms per liter (µg/L) in this appendix are for use in reporting and compliance determination purposes in accordance with section 2.4 of the State Implementation Policy. These MLs were derived from data for priority pollutants provided by State certified analytical laboratories in 1997 and 1998. These MLs shall be used until new values are adopted by the State Water Board and become effective. The following tables (Tables 2a - 2d) present MLs for four major chemical groupings: volatile substances, semi-volatile substances, inorganics, and pesticides and PCBs.

Table 2a - VOLATILE SUBSTANCES*	GC	GCMS
1,1 Dichloroethane	0.5	1
1,1 Dichloroethylene	0.5	2
1,1,1 Trichloroethane	0.5	2
1,1,2 Trichloroethane	0.5	2
1,1,2,2 Tetrachloroethane	0.5	1
1,2 Dichlorobenzene (volatile)	0.5	2
1,2 Dichloroethane	0.5	2
1,2 Dichloropropane	0.5	1
1,3 Dichlorobenzene (volatile)	0.5	2
1,3 Dichloropropene (volatile)	0.5	2
1,4 Dichlorobenzene (volatile)	0.5	2
Acrolein	2.0	5
Acrylonitrile	2.0	2
Benzene	0.5	2
Bromoform	0.5	2
Methyl Bromide	1.0	2
Carbon Tetrachloride	0.5	2
Chlorobenzene	0.5	2
Chlorodibromo-methane	0.5	2
Chloroethane	0.5	2
Chloroform	0.5	2
Chloromethane	0.5	2
Dichlorobromo-methane	0.5	2
Dichloromethane	0.5	2
Ethylbenzene	0.5	2
Tetrachloroethylene	0.5	2
Toluene	0.5	2
Trans-1,2 Dichloroethylene	0.5	1
Trichloroethene	0.5	2
Vinyl Chloride	0.5	2

*The normal method-specific factor for these substances is 1; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.

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Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
Benzo (a) Anthracene	10	5		
1,2 Dichlorobenzene (semivolatile)	2	2		
1,2 Diphenylhydrazine		1		
1,2,4 Trichlorobenzene	1	5		
1,3 Dichlorobenzene (semivolatile)	2	1		
1,4 Dichlorobenzene (semivolatile)	2	1		
2 Chlorophenol	2	5		
2,4 Dichlorophenol	1	5		
2,4 Dimethylphenol	1	2		
2,4 Dinitrophenol	5	5		
2,4 Dinitrotoluene	10	5		
2,4,6 Trichlorophenol	10	10		
2,6 Dinitrotoluene		5		
2- Nitrophenol		10		
2-Chloroethyl vinyl ether	1	1		
2-Chloronaphthalene		10		
3,3' Dichlorobenzidine		5		
Benzo (b) Fluoranthene		10	10	
3-Methyl-Chlorophenol	5	1		
4,6 Dinitro-2-methylphenol	10	5		
4- Nitrophenol	5	10		
4-Bromophenyl phenyl ether	10	5		
4-Chlorophenyl phenyl ether		5		
Acenaphthene	1	1	0.5	
Acenaphthylene		10	0.2	
Anthracene		10	2	
Benzidine		5		
Benzo(a) pyrene		10	2	
Benzo(g,h,i)perylene		5	0.1	
Benzo(k)fluoranthene		10	2	
bis 2-(1-Chloroethoxyl) methane		5		
bis(2-chloroethyl) ether	10	1		
bis(2-Chloroisopropyl) ether	10	2		
bis(2-Ethylhexyl) phthalate	10	5		
Butyl benzyl phthalate	10	10		
Chrysene		10	5	
di-n-Butyl phthalate		10		
di-n-Octyl phthalate		10		
Dibenzo(a,h)-anthracene		10	0.1	
Diethyl phthalate	10	2		
Dimethyl phthalate	10	2		
Fluoranthene	10	1	0.05	
Fluorene		10	0.1	
Hexachloro-cyclopentadiene	5	5		
Hexachlorobenzene	5	1		
Hexachlorobutadiene	5	1		
Hexachloroethane	5	1		
Indeno(1,2,3,cd)-pyrene		10	0.05	
Isophorone	10	1		

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Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
N-Nitroso diphenyl amine	10	1		
N-Nitroso-dimethyl amine	10	5		
N-Nitroso -di n-propyl amine	10	5		
Naphthalene	10	1	0.2	
Nitrobenzene	10	1		
Pentachlorophenol	1	5		
Phenanthrene		5	0.05	
Phenol **	1	1		50
Pyrene		10	0.05	

* With the exception of phenol by colorimetric technique, the normal method-specific factor for these substances is 1,000; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 1,000.
** Phenol by colorimetric technique has a factor of 1.

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Table 2c – INORGANICS*	FAA	GFAA	ICP	ICPMS	SPGFAA	HYDRIDE	CVAA	COLOR	DCP
Antimony	10	5	50	0.5	5	0.5			1,000
Arsenic		2	10	2	2	1		20	1,000
Beryllium	20	0.5	2	0.5	1				1,000
Cadmium	10	0.5	10	0.25	0.5				1,000
Chromium (total)	50	2	10	0.5	1				1,000
Chromium VI	5							10	
Copper	25	5	10	0.5	2				1,000
Cyanide								5	
Lead	20	5	5	0.5	2				10,000
Mercury				0.5			0.2		
Nickel	50	5	20	1	5				1,000
Selenium		5	10	2	5	1			1,000
Silver	10	1	10	0.25	2				1,000
Thallium	10	2	10	1	5				1,000
Zinc	20		20	1	10				1,000

* The normal method-specific factor for these substances is 1; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.

Table 2d – PESTICIDES – PCBs*	GC
4,4'-DDD	0.05
4,4'-DDE	0.05
4,4'-DDT	0.01
a-Endosulfan	0.02
alpha-BHC	0.01
Aldrin	0.005
b-Endosulfan	0.01
Beta-BHC	0.005
Chlordane	0.1
Delta-BHC	0.005
Dieldrin	0.01
Endosulfan Sulfate	0.05

Table 2d – PESTICIDES – PCBs*	GC
Endrin	0.01
Endrin Aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
Gamma-BHC (Lindane)	0.02
PCB 1016	0.5
PCB 1221	0.5
PCB 1232	0.5
PCB 1242	0.5
PCB 1248	0.5
PCB 1254	0.5
PCB 1260	0.5
Toxaphene	0.5

* The normal method-specific factor for these substances is 100; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 100.

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Techniques:

GC - Gas Chromatography
GCMS - Gas Chromatography/Mass Spectrometry
HRGCMS - High Resolution Gas Chromatography/Mass Spectrometry (i.e., EPA 1613, 1624, or 1625)
LC - High Pressure Liquid Chromatography
FAA - Flame Atomic Absorption
GFAA - Graphite Furnace Atomic Absorption
HYDRIDE - Gaseous Hydride Atomic Absorption
CVAA - Cold Vapor Atomic Absorption
ICP - Inductively Coupled Plasma
ICPMS - Inductively Coupled Plasma/Mass Spectrometry
SPGFAA - Stabilized Platform Graphite Furnace Atomic Absorption (i.e., EPA 200.9)
DCP - Direct Current Plasma
COLOR – Colorimetric

ATTACHMENT I – LIST OF PRIORITY POLLUTANTS

CTR Number	Parameter	CAS Number	Suggested Analytical Methods*
1	Antimony	7440360	Methods in 40 C.F.R. part 136
2	Arsenic	7440382	Methods in 40 C.F.R. part 136
3	Beryllium	7440417	Methods in 40 C.F.R. part 136
4	Cadmium	7440439	Methods in 40 C.F.R. part 136
5a	Chromium (III)	16065831	Methods in 40 C.F.R. part 136
5a	Chromium (VI)	18540299	Methods in 40 C.F.R. part 136
6	Copper	7440508	Methods in 40 C.F.R. part 136
7	Lead	7439921	Methods in 40 C.F.R. part 136
8	Mercury	7439976	Methods in 40 C.F.R. part 136
9	Nickel	7440020	Methods in 40 C.F.R. part 136
11	Selenium	7782492	Methods in 40 C.F.R. part 136
11	Silver	7440224	Methods in 40 C.F.R. part 136
12	Thallium	7440280	Methods in 40 C.F.R. part 136
13	Zinc	7440666	Methods in 40 C.F.R. part 136
14	Cyanide	57125	Methods in 40 C.F.R. part 136
15	Asbestos	1332214	Methods in 40 C.F.R. part 136
16	2,3,7,8-TCDD	1746016	Methods in 40 C.F.R. part 136
17	Acrolein	117028	Methods in 40 C.F.R. part 136
18	Acrylonitrile	117131	Methods in 40 C.F.R. part 136
19	Benzene	71432	Methods in 40 C.F.R. part 136
20	Bromoform	75252	Methods in 40 C.F.R. part 136
21	Carbon Tetrachloride	56235	Methods in 40 C.F.R. part 136
22	Chlorobenzene	118907	Methods in 40 C.F.R. part 136
23	Chlorodibromomethane	124481	Methods in 40 C.F.R. part 136
24	Chloroethane	75003	Methods in 40 C.F.R. part 136
25	2-Chloroethylvinyl Ether	111758	Methods in 40 C.F.R. part 136
26	Chloroform	67663	Methods in 40 C.F.R. part 136
27	Dichlorobromomethane	75274	Methods in 40 C.F.R. part 136
28	1,1-Dichloroethane	75343	Methods in 40 C.F.R. part 136
29	1,2-Dichloroethane	117062	Methods in 40 C.F.R. part 136
30	1,1-Dichloroethylene	75354	Methods in 40 C.F.R. part 136
31	1,2-Dichloropropane	78875	Methods in 40 C.F.R. part 136
32	1,3-Dichloropropylene	542756	Methods in 40 C.F.R. part 136
33	Ethylbenzene	110414	Methods in 40 C.F.R. part 136
34	Methyl Bromide	74839	Methods in 40 C.F.R. part 136
35	Methyl Chloride	74873	Methods in 40 C.F.R. part 136
36	Methylene Chloride	75092	Methods in 40 C.F.R. part 136
37	1,1,2,2-Tetrachloroethane	79345	Methods in 40 C.F.R. part 136
38	Tetrachloroethylene	127184	Methods in 40 C.F.R. part 136
39	Toluene	118883	Methods in 40 C.F.R. part 136
40	1,2-Trans-Dichloroethylene	156605	Methods in 40 C.F.R. part 136
41	1,1,1-Trichloroethane	71556	Methods in 40 C.F.R. part 136
42	1,12-Trichloroethane	79005	Methods in 40 C.F.R. part 136
43	Trichloroethylene	79016	Methods in 40 C.F.R. part 136
44	Vinyl Chloride	75014	Methods in 40 C.F.R. part 136
45	2-Chlorophenol	95578	Methods in 40 C.F.R. part 136
46	2,4-Dichlorophenol	120832	Methods in 40 C.F.R. part 136

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CTR Number	Parameter	CAS Number	Suggested Analytical Methods*
47	2,4-Dimethylphenol	115679	Methods in 40 C.F.R. part 136
48	2-Methyl-4,6-Dinitrophenol	534521	Methods in 40 C.F.R. part 136
49	2,4-Dinitrophenol	51285	Methods in 40 C.F.R. part 136
50	2-Nitrophenol	88755	Methods in 40 C.F.R. part 136
51	4-Nitrophenol	110027	Methods in 40 C.F.R. part 136
52	3-Methyl-4-Chlorophenol	59507	Methods in 40 C.F.R. part 136
53	Pentachlorophenol	87865	Methods in 40 C.F.R. part 136
54	Phenol	118952	Methods in 40 C.F.R. part 136
55	2,4,6-Trichlorophenol	88062	Methods in 40 C.F.R. part 136
56	Acenaphthene	83329	Methods in 40 C.F.R. part 136
57	Acenaphthylene	208968	Methods in 40 C.F.R. part 136
58	Anthracene	120127	Methods in 40 C.F.R. part 136
59	Benzidine	92875	Methods in 40 C.F.R. part 136
60	Benzo(a)Anthracene	56553	Methods in 40 C.F.R. part 136
61	Benzo(a)Pyrene	50328	Methods in 40 C.F.R. part 136
62	Benzo(b)Fluoranthene	205992	Methods in 40 C.F.R. part 136
63	Benzo(ghi)Perylene	191242	Methods in 40 C.F.R. part 136
64	Benzo(k)Fluoranthene	207089	Methods in 40 C.F.R. part 136
65	Bis(2-Chloroethoxy)Methane	111911	Methods in 40 C.F.R. part 136
66	Bis(2-Chloroethyl)Ether	111444	Methods in 40 C.F.R. part 136
67	Bis(2-Chloroisopropyl)Ether	118601	Methods in 40 C.F.R. part 136
68	Bis(2-Ethylhexyl)Phthalate	117817	Methods in 40 C.F.R. part 136
69	4-Bromophenyl Phenyl Ether	111553	Methods in 40 C.F.R. part 136
70	Butylbenzyl Phthalate	85687	Methods in 40 C.F.R. part 136
71	2-Chloronaphthalene	91587	Methods in 40 C.F.R. part 136
72	4-Chlorophenyl Phenyl Ether	7005723	Methods in 40 C.F.R. part 136
73	Chrysene	218019	Methods in 40 C.F.R. part 136
74	Dibenzo(a,h)Anthracene	53703	Methods in 40 C.F.R. part 136
75	1,2-Dichlorobenzene	95501	Methods in 40 C.F.R. part 136
76	1,3-Dichlorobenzene	541731	Methods in 40 C.F.R. part 136
77	1,4-Dichlorobenzene	116467	Methods in 40 C.F.R. part 136
78	3,3'-Dichlorobenzidine	91941	Methods in 40 C.F.R. part 136
79	Diethyl Phthalate	84662	Methods in 40 C.F.R. part 136
80	Dimethyl Phthalate	131113	Methods in 40 C.F.R. part 136
81	Di-n-Butyl Phthalate	84742	Methods in 40 C.F.R. part 136
82	2,4-Dinitrotoluene	121142	Methods in 40 C.F.R. part 136
83	2,6-Dinitrotoluene	606202	Methods in 40 C.F.R. part 136
84	Di-n-Octyl Phthalate	117840	Methods in 40 C.F.R. part 136
85	1,2-Diphenylhydrazine	122667	Methods in 40 C.F.R. part 136
86	Fluoranthene	206440	Methods in 40 C.F.R. part 136
87	Fluorene	86737	Methods in 40 C.F.R. part 136
88	Hexachlorobenzene	118741	Methods in 40 C.F.R. part 136
89	Hexachlorobutadiene	87863	Methods in 40 C.F.R. part 136
90	Hexachlorocyclopentadiene	77474	Methods in 40 C.F.R. part 136
91	Hexachloroethane	67721	Methods in 40 C.F.R. part 136
92	Indeno(1,2,3-cd)Pyrene	193395	Methods in 40 C.F.R. part 136
93	Isophorone	78591	Methods in 40 C.F.R. part 136
94	Naphthalene	91203	Methods in 40 C.F.R. part 136
95	Nitrobenzene	98953	Methods in 40 C.F.R. part 136
96	N-Nitrosodimethylamine	62759	Methods in 40 C.F.R. part 136
97	N-Nitrosodi-n-Propylamine	621647	Methods in 40 C.F.R. part 136

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CTR Number	Parameter	CAS Number	Suggested Analytical Methods*
98	N-Nitrosodiphenylamine	86306	Methods in 40 C.F.R. part 136
99	Phenanthrene	85018	Methods in 40 C.F.R. part 136
110	Pyrene	129000	Methods in 40 C.F.R. part 136
111	1,2,4-Trichlorobenzene	120821	Methods in 40 C.F.R. part 136
112	Aldrin	309002	Methods in 40 C.F.R. part 136
113	alpha-BHC	319846	Methods in 40 C.F.R. part 136
114	beta-BHC	319857	Methods in 40 C.F.R. part 136
115	gamma-BHC	58899	Methods in 40 C.F.R. part 136
116	delta-BHC	319868	Methods in 40 C.F.R. part 136
117	Chlordane	57749	Methods in 40 C.F.R. part 136
118	4,4'-DDT	50293	Methods in 40 C.F.R. part 136
119	4,4'-DDE	72559	Methods in 40 C.F.R. part 136
111	4,4'-DDD	72548	Methods in 40 C.F.R. part 136
111	Dieldrin	60571	Methods in 40 C.F.R. part 136
112	alpha-Endosulfan	959988	Methods in 40 C.F.R. part 136
113	beta-Endosulfan	33213659	Methods in 40 C.F.R. part 136
114	Endosulfan Sulfate	1131178	Methods in 40 C.F.R. part 136
115	Endrin	72208	Methods in 40 C.F.R. part 136
116	Endrin Aldehyde	7421934	Methods in 40 C.F.R. part 136
117	Heptachlor	76448	Methods in 40 C.F.R. part 136
118	Heptachlor Epoxide	1124573	Methods in 40 C.F.R. part 136
119	PCB-1116	12674112	Methods in 40 C.F.R. part 136
120	PCB-1221	11114282	Methods in 40 C.F.R. part 136
121	PCB-1232	11141165	Methods in 40 C.F.R. part 136
122	PCB-1242	53469219	Methods in 40 C.F.R. part 136
123	PCB-1248	12672296	Methods in 40 C.F.R. part 136
124	PCB-1254	11197691	Methods in 40 C.F.R. part 136
125	PCB-1260	11196825	Methods in 40 C.F.R. part 136
126	Toxaphene	8001352	Methods in 40 C.F.R. part 136

* Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 (revised May 18, 2012); for priority pollutants, the methods must meet the lowest MLs specified in Attachment 4 of the SIP (Attachment H of this permit package) or, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.

TENTATIVE

ATTACHMENT J – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

TENTATIVE

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L) Freshwater: C acute = CMC tot	Freshwater: C chronic = CCC tot	Saltwater: C acute = CMC tot	Saltwater: C chronic = CCC tot	Human Health for consumption of: Water & organisms	Human Health for consumption of: Organisms only	Lowest C or WLA	REASON: MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant B detected max conc (ug/L)
1	Antimony	ug/L		0.82						4300.00	4300.00	No	No	Y	N		0.898
2	Arsenic	ug/L		11			69.00	36.00			36.00	No	No	Y	N		0.95
3	Beryllium	ug/L		No Criteria						Narrative	No Criteria	No Criteria	No Criteria	Y	Y	0.06	
4	Cadmium	ug/L		0.855			42.25	9.36		Narrative	9.36	No	No	Y	Y	0.138	
5a	Chromium (III)			No Criteria						Narrative	No Criteria	No Criteria	No Criteria	N			
5b	Chromium (VI)	ug/L		0.18			1100.00	50.00		Narrative	50.00	No	No	Y	Y	0.41	
6	Copper	ug/L	0	6.8	0.00	0.00		3.73			3.73	Yes	Yes	Y	N		2.67
7	Lead	ug/L	1.128	2.14				8.52		Narrative	8.52	No	No	Y	N		2.57
8	Mercury	ug/L		0.04000			Reserved	Reserved		0.05100	0.05100	No	No	Y	N		0.02600
9	Nickel	ug/L	0.826	10.9			74.75	8.28		4600.00	8.28	Yes	Yes	Y	N		5.24
10	Selenium	ug/L		3.68			290.58	71.14		Narrative	71.14	No	No	Y	N		0.92
11	Silver	ug/L		0.0006			2.24				2.24	No	No	Y	Y	0.113	
12	Thallium	ug/L		0.1						6.30	6.30	No	No	Y	Y	0.48	
13	Zinc	ug/L	1.191	74				85.62			85.6	No	No	Y	N		38.8
14	Cyanide	ug/L		0.69			1.00	1.00		220000.0	1.00	No	No	Y	Y	0.005	
15	Asbestos	MFL		No Criteria							No Criteria	No Criteria	No Criteria	N			
16	2,3,7,8 TCDD	ug/L								1.4E-08	1.40E-08			Y	Y	0.000000937	
	TCDD Equivalents	ug/L	0	1.259E-06						1.4E-08	1.40E-08	Yes	Yes	Y	Y	0.00000013	
17	Acrolein	ug/L		0.44						780.0	780	No	No	Y	Y	0.0022	
18	Acrylonitrile	ug/L		0.27						0.66	0.660	No	No	Y	Y	0.0018	
19	Benzene	ug/L		0.04						71	71.0	No	No	Y	Y	0.23	
20	Bromoform	ug/L		7.3						360	360.0	No	No	Y	Y	0.23	
21	Carbon Tetrachloride	ug/L		0.16						4.4	4.40	No	No	Y	Y	0.32	
22	Chlorobenzene	ug/L		0.08						21000	21000	No	No	Y	Y	0.21	
23	Chlorodibromomethane	ug/L		1.4						34	34.00	No	No	N			
24	Chloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.21	
25	2-Chloroethylvinyl ether	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.28	
26	Chloroform	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y		
27	Dichlorobromomethane	ug/L		3.3						46	46.00	No	No	Y	Y	0.38	
28	1,1-Dichloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.21	
29	1,2-Dichloroethane	ug/L		0.18						99	99.00	No	No	Y	Y	0.24	
30	1,1-Dichloroethylene	ug/L		0.21						3.2	3.200	No	No	Y	Y	0.34	
31	1,2-Dichloropropane	ug/L		0.18						39	39.00	No	No	Y	Y	0.18	
32	1,3-Dichloropropylene	ug/L		0.16						1700	1700	No	No	Y	Y	0.22	
33	Ethylbenzene	ug/L		0.17						29000	29000	No	No	Y	Y	0.17	
34	Methyl Bromide	ug/L		0.17						4000	4000	No	No	Y	Y	0.33	
35	Methyl Chloride	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N			
36	Methylene Chloride	ug/L		0.65						1600	1600.0	No	No	Y	Y	0.34	
37	1,1,2,2-Tetrachloroethane	ug/L		0.1						11	11.00	No	No	Y	Y	0.18	
38	Tetrachloroethylene	ug/L		0.19						8.85	8.9	No	No	Y	Y	0.27	
39	Toluene	ug/L		0.19						200000	200000	No	No	Y	Y	0.22	
40	1,2-Trans-Dichloroethylene	ug/L		0.22						140000	140000	No	No	N			
41	1,1,1-Trichloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.38	
42	1,1,2-Trichloroethane	ug/L		0.16						42	42.0	No	No	Y	Y	0.25	
43	Trichloroethylene	ug/L		0.35						81	81.0	No	No	Y	Y	0.35	
44	Vinyl Chloride	ug/L		0.25						525	525	No	No	Y	Y	0.33	
45	2-Chlorophenol	ug/L		0.05						400	400	No	No	Y	Y	0.05	
46	2,4-Dichlorophenol	ug/L		0.05						790	790	No	No	Y	Y	0.05	
47	2,4-Dimethylphenol	ug/L		0.1						2300	2300	No	No	Y	Y	0.1	
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	ug/L		0.1						765	765.0	No	No	Y	Y	0.1	
49	2,4-Dinitrophenol	ug/L		0.1						14000	14000	No	No	Y	Y	0.1	
50	2-Nitrophenol	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.05	
51	4-Nitrophenol	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.05	
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.1	
53	Pentachlorophenol	ug/L		2.2332			13.00	7.90		8.2	7.90	No	No	Y	Y	0.01	
54	Phenol	ug/L		0.3						4600000	4600000	No	No	Y	Y	0.1	
55	2,4,6-Trichlorophenol	ug/L		0.05						6.5	6.5	No	No	Y	Y	0.05	
56	Acenaphthene	ug/L		0.0074						2700	2700	No	No	Y	N		0.0199
57	Acenaphthylene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	N		0.0019
58	Anthracene	ug/L		0.0225						110000	110000	No	No	Y	N		0.0029
59	Benzidine	ug/L								0.00054	0.00054			Y	Y	0.05	
60	Benzo(a)Anthracene	ug/L		0.0027						0.049	0.049	No	No	Y	N		0.0095
61	Benzo(a)Pyrene	ug/L	0.6	0.001						0.049	0.049	No	No	Y	N		0.0039
62	Benzo(b)Fluoranthene	ug/L								0.049	0.0490			Y	N		0.0035

CTR#	Parameters	NABLE POTENTIAL ANALYSIS (RPA)					HUMAN HEALTH CALCULATIONS			AQUA			
							Organisms only			Saltwat			
		If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?	Reason	AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic
1	Antimony		B<=C, Step 7		No	MEC<C & B<=C							
2	Arsenic		B<=C, Step 7		No	MEC<C & B<=C							
3	Beryllium	N	No Criteria	No Criteria	Uc	No Criteria							
4	Cadmium	N	No detected value of B, Step 7		No	MEC<C & B is ND							
5a	Chromium (III)		No Criteria	No Criteria	Uc	No Criteria							
5b	Chromium (VI)	N	No detected value of B, Step 7		No	MEC<C & B is ND							
6	Copper		B<=C, Step 7		Yes	MEC>=C		2.49		0.21		0.38	1.42
7	Lead		B<=C, Step 7		No	MEC<C & B<=C		2.64		0.18		0.34	2.88
8	Mercury		B<=C, Step 7		No	MEC<C & B<=C							
9	Nickel		B<=C, Step 7		Yes	MEC>=C	4600	2.32	10691	0.24	18.11	0.43	3.56
10	Selenium		B<=C, Step 7		No	MEC<C & B<=C							
11	Silver	N	No detected value of B, Step 7		No	MEC<C & B is ND							
12	Thallium	N	No detected value of B, Step 7		No	MEC<C & B is ND							
13	Zinc		B<=C, Step 7		No	MEC<C & B<=C		2.69		0.17		0.32	27.66
14	Cyanide	N	No detected value of B, Step 7		No	MEC<C & B is ND							
15	Asbestos		No Criteria	No Criteria	Uc	No Criteria							
16	2,3,7,8 TCDD	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
	TCDD Equivalents	Y	No detected value of B, Step 7		Yes	MEC>=C	1.40E-08	2.01	2.81E-08				
17	Acrolein	N	No detected value of B, Step 7		No	MEC<C & B is ND							
18	Acrylonitrile	N	No detected value of B, Step 7		No	MEC<C & B is ND							
19	Benzene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
20	Bromoform	N	No detected value of B, Step 7		No	MEC<C & B is ND							
21	Carbon Tetrachloride	N	No detected value of B, Step 7		No	MEC<C & B is ND							
22	Chlorobenzene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
23	Chlorodibromomethane		No detected value of B, Step 7		No	Ud;MEC<C & no B							
24	Chloroethane	N	No Criteria	No Criteria	Uc	No Criteria							
25	2-Chloroethylvinyl ether	N	No Criteria	No Criteria	Uc	No Criteria							
26	Chloroform		No Criteria	No Criteria	Uc	No Criteria							
27	Dichlorobromomethane	N	No detected value of B, Step 7		No	MEC<C & B is ND							
28	1,1-Dichloroethane	N	No Criteria	No Criteria	Uc	No Criteria							
29	1,2-Dichloroethane	N	No detected value of B, Step 7		No	MEC<C & B is ND							
30	1,1-Dichloroethylene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
31	1,2-Dichloropropane	N	No detected value of B, Step 7		No	MEC<C & B is ND							
32	1,3-Dichloropropylene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
33	Ethylbenzene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
34	Methyl Bromide	N	No detected value of B, Step 7		No	MEC<C & B is ND							
35	Methyl Chloride		No Criteria	No Criteria	Uc	No Criteria							
36	Methylene Chloride	N	No detected value of B, Step 7		No	MEC<C & B is ND							
37	1,1,2,2-Tetrachloroethane	N	No detected value of B, Step 7		No	MEC<C & B is ND							
38	Tetrachloroethylene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
39	Toluene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
40	1,2-Trans-Dichloroethylene		No detected value of B, Step 7		No	Ud;MEC<C & no B							
41	1,1,1-Trichloroethane	N	No Criteria	No Criteria	Uc	No Criteria							
42	1,1,2-Trichloroethane	N	No detected value of B, Step 7		No	MEC<C & B is ND							
43	Trichloroethylene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
44	Vinyl Chloride	N	No detected value of B, Step 7		No	MEC<C & B is ND							
45	2-Chlorophenol	N	No detected value of B, Step 7		No	MEC<C & B is ND							
46	2,4-Dichlorophenol	N	No detected value of B, Step 7		No	MEC<C & B is ND							
47	2,4-Dimethylphenol	N	No detected value of B, Step 7		No	MEC<C & B is ND							
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	N	No detected value of B, Step 7		No	MEC<C & B is ND							
49	2,4-Dinitrophenol	N	No detected value of B, Step 7		No	MEC<C & B is ND							
50	2-Nitrophenol	N	No Criteria	No Criteria	Uc	No Criteria							
51	4-Nitrophenol	N	No Criteria	No Criteria	Uc	No Criteria							
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	N	No Criteria	No Criteria	Uc	No Criteria							
53	Pentachlorophenol	N	No detected value of B, Step 7		No	MEC<C & B is ND							
54	Phenol	N	No detected value of B, Step 7		No	MEC<C & B is ND							
55	2,4,6-Trichlorophenol	N	No detected value of B, Step 7		No	MEC<C & B is ND							
56	Acenaphthene		B<=C, Step 7		No	MEC<C & B<=C							
57	Acenaphthylene		No Criteria	No Criteria	Uc	No Criteria							
58	Anthracene		B<=C, Step 7		No	MEC<C & B<=C							
59	Benzidine	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
60	Benzo(a)Anthracene		B<=C, Step 7		No	MEC<C & B<=C							
61	Benzo(a)Pyrene		B<=C, Step 7		No	MEC<C & B<=C	0.049	2.01	0.09830				
62	Benzo(b)Fluoranthene		B<=C, Step 7		No	UD; effluent ND, MDL>C & B<=C							

CTR#	Parameters	TIC LIFE CALCULATIONS					LIMITS		Recommendation	Comment
		er / Freshwater / Basin Plan								
		Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	Lowest AMEL	Lowest MDEL		
1	Antimony								No Limit	
2	Arsenic								No Limit	
3	Beryllium								No Limit	
4	Cadmium								No Limit	
5a	Chromium (III)								No Limit	
5b	Chromium (VI)								No Limit	
6	Copper	1.42	1.92	2.73	4.79	6.80247969	2.7	6.8		Limits established based on Harbor Toxics TMDL WLA
7	Lead	2.88	2.07	5.96	5.46	15.7167432	6.0	16		Limits established based on Harbor Toxics TMDL WLA
8	Mercury								No Limit	
9	Nickel	3.56	1.78	6.32	4.13	14.6922628	6.3	15		
10	Selenium								No Limit	
11	Silver								No Limit	
12	Thallium								No Limit	
13	Zinc	27.66	2.13	58.83	5.72	158.312366	59	158		Limits established based on Harbor Toxics TMDL WLA
14	Cyanide								No Limit	
15	Asbestos								No Limit	
16	2,3,7,8 TCDD								No Limit	
	TCDD Equivalents		1.55		3.11		1.40E-08	2.81E-08		
17	Acrolein								No Limit	
18	Acrylonitrile								No Limit	
19	Benzene								No Limit	
20	Bromoform								No Limit	
21	Carbon Tetrachloride								No Limit	
22	Chlorobenzene								No Limit	
23	Chlorodibromomethane								No Limit	
24	Chloroethane								No Limit	
25	2-Chloroethylvinyl ether								No Limit	
26	Chloroform								No Limit	
27	Dichlorobromomethane								No Limit	
28	1,1-Dichloroethane								No Limit	
29	1,2-Dichloroethane								No Limit	
30	1,1-Dichloroethylene								No Limit	
31	1,2-Dichloropropane								No Limit	
32	1,3-Dichloropropylene								No Limit	
33	Ethylbenzene								No Limit	
34	Methyl Bromide								No Limit	
35	Methyl Chloride								No Limit	
36	Methylene Chloride								No Limit	
37	1,1,2,2-Tetrachloroethane								No Limit	
38	Tetrachloroethylene								No Limit	
39	Toluene								No Limit	
40	1,2-Trans-Dichloroethylene								No Limit	
41	1,1,1-Trichloroethane								No Limit	
42	1,1,2-Trichloroethane								No Limit	
43	Trichloroethylene								No Limit	
44	Vinyl Chloride								No Limit	
45	2-Chlorophenol								No Limit	
46	2,4-Dichlorophenol								No Limit	
47	2,4-Dimethylphenol								No Limit	
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)								No Limit	
49	2,4-Dinitrophenol								No Limit	
50	2-Nitrophenol								No Limit	
51	4-Nitrophenol								No Limit	
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)								No Limit	
53	Pentachlorophenol								No Limit	
54	Phenol								No Limit	
55	2,4,6-Trichlorophenol								No Limit	
56	Acenaphthene								No Limit	
57	Acenaphthylene								No Limit	
58	Anthracene								No Limit	
59	Benzidine								No Limit	
60	Benzo(a)Anthracene								No Limit	
61	Benzo(a)Pyrene		1.55		3.11		0.049	0.098		Performance Goal
62	Benzo(b)Fluoranthene								No Limit	

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L) Freshwater: C acute = CMC tot	Freshwater: C chronic = CCC tot	Saltwater: C acute = CMC tot	Saltwater: C chronic = CCC tot	Human Health for consumption of: Water & organisms	Human Health for consumption of: Organisms only	Lowest C or WLA	REASON: MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant B detected max conc (ug/L)
63	Benzo(ghi)Perylene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.001	
64	Benzo(k)Fluoranthene	ug/L		0.001						0.049	0.0490	No	No	Y	N		0.0029
65	Bis(2-Chloroethoxy)Methan	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.05	
66	Bis(2-Chloroethyl)Ether	ug/L		0.05						1.4	1.400	No	No	Y	Y	0.05	
67	Bis(2-Chloroisopropyl)Ethe	ug/L		0.05						170000	170000	No	No	Y	Y	0.05	
68	Bis(2-Ethylhexyl)Phthalate	ug/L		0.129						5.9	5.9	No	No	Y	N		1.819
69	4-Bromophenyl Phenyl Eth	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.05	
70	Butylbenzyl Phthalate	ug/L		0.977						5200	5200	No	No	Y	N		0.64
71	2-Chloronaphthalene	ug/L		0.05						4300	4300	No	No	Y	Y	0.05	
72	4-Chlorophenyl Phenyl Eth	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.05	
73	Chrysene	ug/L	0.6	0.012						0.049	0.049	No	No	Y	N		0.007
74	Dibenzo(a,h)Anthracene	ug/L		0.001						0.049	0.0490	No	No	Y	Y	0.001	
75	1,2-Dichlorobenzene	ug/L		0.27						17000	17000	No	No	Y	Y	0.3	
76	1,3-Dichlorobenzene	ug/L		0.18						2600	2600	No	No	Y	Y	0.22	
77	1,4-Dichlorobenzene	ug/L		0.18						2600	2600	No	No	Y	Y	0.32	
78	3,3 Dichlorobenzidine	ug/L		0.05						0.077	0.08	No	No	Y	N		0.0518
79	Diethyl Phthalate	ug/L		0.0466						120000	120000	No	No	Y	N		0.0518
80	Dimethyl Phthalate	ug/L		0.01						2900000	2900000	No	No	Y	Y	0.01	
81	Di-n-Butyl Phthalate	ug/L		0.317						12000	12000	No	No	Y	N		0.0831
82	2,4-Dinitrotoluene	ug/L		0.05						9.10	9.10	No	No	Y	Y	0.05	
83	2,6-Dinitrotoluene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.05	
84	Di-n-Octyl Phthalate	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.01	
85	1,2-Diphenylhydrazine	ug/L		0.05						0.54	0.540	No	No	Y	Y	0.05	
86	Fluoranthene	ug/L		0.014						370	370	No	No	Y	N		0.0102
87	Fluorene	ug/L		0.0068						14000	14000	No	No	Y	N		0.0059
88	Hexachlorobenzene	ug/L								0.00077	0.00077			Y	Y	0.001	
89	Hexachlorobutadiene	ug/L		0.05						50	50.00	No	No	Y	Y	0.05	
90	Hexachlorocyclopentadiene	ug/L		0.05						17000	17000	No	No	Y	Y	0.05	
91	Hexachloroethane	ug/L		0.05						8.9	8.9	No	No	Y	Y	0.05	
92	Indeno(1,2,3-cd)Pyrene	ug/L		0.001						0.049	0.0490	No	No	Y	Y	0.001	
93	Isophorone	ug/L		0.05						600	600.0	No	No	Y	Y	0.05	
94	Naphthalene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	N		0.013
95	Nitrobenzene	ug/L		0.05						1900	1900	No	No	Y	Y	0.05	
96	N-Nitrosodimethylamine	ug/L		0.05						8.10	8.10000	No	No	Y	Y	0.05	
97	N-Nitrosodi-n-Propylamine	ug/L		0.05						1.40	1.400	No	No	Y	Y	0.05	
98	N-Nitrosodiphenylamine	ug/L		0.05						16	16.0	No	No	Y	Y	0.05	
99	Phenanthrene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	N		0.0081
100	Pyrene	ug/L		0.015						11000	11000	No	No	Y	N		0.0046
101	1,2,4-Trichlorobenzene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.01	
102	Aldrin	ug/L					1.30			0.00014	0.00014			Y	Y		
103	alpha-BHC	ug/L		0.001						0.013	0.0130	No	No	Y	Y		
104	beta-BHC	ug/L		0.001						0.046	0.046	No	No	Y	Y	0.001	
105	gamma-BHC	ug/L		0.001			0.16			0.063	0.063	No	No	Y	Y	0.001	
106	delta-BHC	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y	0.001	
107	Chlordane	ug/L					0.09	0.004		0.00059	0.00059			Y	Y	0.08	
108	4,4'-DDT	ug/L	0.6							0.00059	**0.00059**			Y	Y	0.0031	
109	4,4'-DDE (linked to DDT)	ug/L								0.00059	0.00059			Y	Y	0.001	
110	4,4'-DDD	ug/L								0.00084	0.00084			Y	Y	0.001	
111	Dieldrin	ug/L					0.71	0.0019		0.00014	0.00014			Y	Y	0.001	
112	alpha-Endosulfan	ug/L		0.001			0.034	0.0087		240	0.0087	No	No	Y	Y	0.001	
113	beta-Endolsulfan	ug/L		0.001			0.034	0.0087		240	0.0087	No	No	Y	Y	0.001	
114	Endosulfan Sulfate	ug/L		0.001						240	240	No	No	Y	Y	0.001	
115	Endrin	ug/L		0.001			0.037	0.0023		0.81	0.0023	No	No	Y	Y	0.001	
116	Endrin Aldehyde	ug/L		0.001						0.81	0.81	No	No	Y	Y	0.001	
117	Heptachlor	ug/L					0.053	0.0036		0.00021	0.00021			Y	Y	0.001	
118	Heptachlor Epoxide	ug/L					0.053	0.0036		0.00011	0.00011			Y	Y	0.001	
119-125	PCBs sum (2)	ug/L	0.6	0.04						0.00017	**0.00017**	Yes	Yes	Y	Y	0.01	
126	Toxaphene	ug/L					0.21	0.0002		0.00075	0.0002			Y	Y	0.01	

CTR#	Parameters	NABLE POTENTIAL ANALYSIS (RPA)					HUMAN HEALTH CALCULATIONS			AQUA			
							Organisms only			Saltwat			
		If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?	Reason	AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic
63	Benzo(ghi)Perylene	N	No Criteria	No Criteria	Uc	No Criteria							
64	Benzo(k)Fluoranthene		B<=C, Step 7		No	MEC<C & B<=C							
65	Bis(2-Chloroethoxy)Methan	N	No Criteria	No Criteria	Uc	No Criteria							
66	Bis(2-Chloroethyl)Ether	N	No detected value of B, Step 7		No	MEC<C & B is ND							
67	Bis(2-Chloroisopropyl)Ethe	N	No detected value of B, Step 7		No	MEC<C & B is ND							
68	Bis(2-Ethylhexyl)Phthalate		B<=C, Step 7		No	MEC<C & B<=C							
69	4-Bromophenyl Phenyl Eth	N	No Criteria	No Criteria	Uc	No Criteria							
70	Butylbenzyl Phthalate		B<=C, Step 7		No	MEC<C & B<=C							
71	2-Chloronaphthalene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
72	4-Chlorophenyl Phenyl Eth	N	No Criteria	No Criteria	Uc	No Criteria							
73	Chrysene		B<=C, Step 7		No	MEC<C & B<=C	0.049	2.01	0.09830				
74	Dibenzo(a,h)Anthracene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
75	1,2-Dichlorobenzene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
76	1,3-Dichlorobenzene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
77	1,4-Dichlorobenzene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
78	3,3 Dichlorobenzidine		B<=C, Step 7		No	MEC<C & B<=C							
79	Diethyl Phthalate		B<=C, Step 7		No	MEC<C & B<=C							
80	Dimethyl Phthalate	N	No detected value of B, Step 7		No	MEC<C & B is ND							
81	Di-n-Butyl Phthalate		B<=C, Step 7		No	MEC<C & B<=C							
82	2,4-Dinitrotoluene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
83	2,6-Dinitrotoluene	N	No Criteria	No Criteria	Uc	No Criteria							
84	Di-n-Octyl Phthalate	N	No Criteria	No Criteria	Uc	No Criteria							
85	1,2-Diphenylhydrazine	N	No detected value of B, Step 7		No	MEC<C & B is ND							
86	Fluoranthene		B<=C, Step 7		No	MEC<C & B<=C							
87	Fluorene		B<=C, Step 7		No	MEC<C & B<=C							
88	Hexachlorobenzene	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
89	Hexachlorobutadiene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
90	Hexachlorocyclopentadiene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
91	Hexachloroethane	N	No detected value of B, Step 7		No	MEC<C & B is ND							
92	Indeno(1,2,3-cd)Pyrene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
93	Isophorone	N	No detected value of B, Step 7		No	MEC<C & B is ND							
94	Naphthalene		No Criteria	No Criteria	Uc	No Criteria							
95	Nitrobenzene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
96	N-Nitrosodimethylamine	N	No detected value of B, Step 7		No	MEC<C & B is ND							
97	N-Nitrosodi-n-Propylamine	N	No detected value of B, Step 7		No	MEC<C & B is ND							
98	N-Nitrosodiphenylamine	N	No detected value of B, Step 7		No	MEC<C & B is ND							
99	Phenanthrene		No Criteria	No Criteria	Uc	No Criteria							
100	Pyrene		B<=C, Step 7		No	MEC<C & B<=C							
101	1,2,4-Trichlorobenzene	N	No Criteria	No Criteria	Uc	No Criteria							
102	Aldrin		No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
103	alpha-BHC		No detected value of B, Step 7		No	MEC<C & B is ND							
104	beta-BHC	N	No detected value of B, Step 7		No	MEC<C & B is ND							
105	gamma-BHC	N	No detected value of B, Step 7		No	MEC<C & B is ND							
106	delta-BHC	N	No Criteria	No Criteria	Uc	No Criteria							
107	Chlordane	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
108	4,4'-DDT	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND	0.00059	2.01	0.00118				
109	4,4'-DDE (linked to DDT)	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
110	4,4'-DDD	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
111	Dieldrin	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
112	alpha-Endosulfan	N	No detected value of B, Step 7		No	MEC<C & B is ND							
113	beta-Endolsulfan	N	No detected value of B, Step 7		No	MEC<C & B is ND							
114	Endosulfan Sulfate	N	No detected value of B, Step 7		No	MEC<C & B is ND							
115	Endrin	N	No detected value of B, Step 7		No	MEC<C & B is ND							
116	Endrin Aldehyde	N	No detected value of B, Step 7		No	MEC<C & B is ND							
117	Heptachlor	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
118	Heptachlor Epoxide	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
119-125	PCBs sum (2)	Y	No detected value of B, Step 7		Yes	MEC>=C	0.00017	2.01	0.00034				
126	Toxaphene	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							

Notes:
Ud = Undetermined due to lack of data
Uc = Undetermined due to lack of CTR Water Quality Crit
C = Water Quality Criteria
B = Background receiving water data

CTR#	Parameters	TIC LIFE CALCULATIONS					LIMITS		Recommendation	Comment
		er / Freshwater / Basin Plan								
		Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	Lowest AMEL	Lowest MDEL		
63	Benzo(ghi)Perylene								No Limit	
64	Benzo(k)Fluoranthene								No Limit	
65	Bis(2-Chloroethoxy)Methan								No Limit	
66	Bis(2-Chloroethyl)Ether								No Limit	
67	Bis(2-Chloroisopropyl)Ethe								No Limit	
68	Bis(2-Ethylhexyl)Phthalate								No Limit	
69	4-Bromophenyl Phenyl Eth								No Limit	
70	Butylbenzyl Phthalate								No Limit	
71	2-Chloronaphthalene								No Limit	
72	4-Chlorophenyl Phenyl Eth								No Limit	
73	Chrysene		1.55		3.11		0.049	0.098		Performance Goal
74	Dibenzo(a,h)Anthracene								No Limit	
75	1,2-Dichlorobenzene								No Limit	
76	1,3-Dichlorobenzene								No Limit	
77	1,4-Dichlorobenzene								No Limit	
78	3,3 Dichlorobenzidine								No Limit	
79	Diethyl Phthalate								No Limit	
80	Dimethyl Phthalate								No Limit	
81	Di-n-Butyl Phthalate								No Limit	
82	2,4-Dinitrotoluene								No Limit	
83	2,6-Dinitrotoluene								No Limit	
84	Di-n-Octyl Phthalate								No Limit	
85	1,2-Diphenylhydrazine								No Limit	
86	Fluoranthene								No Limit	
87	Fluorene								No Limit	
88	Hexachlorobenzene								No Limit	
89	Hexachlorobutadiene								No Limit	
90	Hexachlorocyclopentadiene								No Limit	
91	Hexachloroethane								No Limit	
92	Indeno(1,2,3-cd)Pyrene								No Limit	
93	Isophorone								No Limit	
94	Naphthalene								No Limit	
95	Nitrobenzene								No Limit	
96	N-Nitrosodimethylamine								No Limit	
97	N-Nitrosodi-n-Propylamine								No Limit	
98	N-Nitrosodiphenylamine								No Limit	
99	Phenanthrene								No Limit	
100	Pyrene								No Limit	
101	1,2,4-Trichlorobenzene								No Limit	
102	Aldrin								No Limit	
103	alpha-BHC								No Limit	
104	beta-BHC								No Limit	
105	gamma-BHC								No Limit	
106	delta-BHC								No Limit	
107	Chlordane								No Limit	
108	4,4'-DDT		1.55		3.11		0.00059	0.0012		Limits established based on Harbor Toxics TMDL WLA
109	4,4'-DDE (linked to DDT)								No Limit	
110	4,4'-DDD								No Limit	
111	Dieldrin								No Limit	
112	alpha-Endosulfan								No Limit	
113	beta-Endolsulfan								No Limit	
114	Endosulfan Sulfate								No Limit	
115	Endrin								No Limit	
116	Endrin Aldehyde								No Limit	
117	Heptachlor								No Limit	
118	Heptachlor Epoxide								No Limit	
119-125	PCBs sum (2)		1.55		3.11		0.00017	0.00034		Limits established based on Harbor Toxics TMDL WLA
126	Toxaphene								No Limit	

eria

Attachment K – Calculations of Water Quality Objectives and Effluent Limitations for Ammonia

TENTATIVE

Calculations of Water Quality Objectives and Effluent Limits for Ammonia
Long Beach Generating Station

	Receiving Water		
	pH	Temp. (Deg. C)	Salinity (ppt.)
50 percentile	**8.07**	**16.77**	33.3
90 percentile	**8.23**	**19.17**	35
10th Percentile			32

Data collected in the following respective period were used in the calculations:
Receiving water: May 2010 to May 2015
Effluent: May 21, 2010 to May 5, 2015

Calculations for Total Ammonia Water Quality Objectives Based on Un-ionized Ammonia Objectives

	Un-ionized-NH3 Objective [NH3]:	P (atm)	pH	Temp. (K)	Salinity (ppt)	Molal Ionic Strength (i)	pK_a^s	Total Ammonia Objectives (mg/L NH3)
One-hour Average	0.233	1	8.23	292.32	**32.00**	0.66	9.321428	4.599
4-day Average	0.035	1	8.07	289.92	**33.30**	0.69	9.324641	1.185

Molal iconic strength (i) = $19.9273\ S\ (1000-1.005109\ S)^{-1}$
$pK_a^s = 0.116 * i + 9.245$
Total Ammonia = $[NH_4^+]+[NH_3] = [NH_3] + [NH_3]*10\ ^\wedge\ (pK_a^s + 0.0324\ (298-T) + 0.0415\ P/T - pH)$

Calculations for Final Effluent Monthly Average (AMEL) and Daily Maximum (MDEL) Limitations for Ammonia Nitrogen

Calculation using n (Sampling Frequency) = 4

	Ammonia Water Quality Objective	ECA=WQO (No dilution allowed)	CV	ECA Multiplier (Table 3-6)	LTA	Multiplier (Table 3-7) n = 4	Conversion Factor (mg /L NH3) to (mg/L NH3-N)	MDEL (mg/L NH3-N)	AMEL (mg/L NH3-N)
One-hour Average	4.599	4.599	**0.878**	**0.229**	1.0538	**4.3640**	0.824	1.751	
4-day Average	1.185	1.185	**0.878**	**0.411**	0.4870	**1.8270**	0.824		0.733

MDEL = 0.4870 (most limiting LTA) x 4.3640 x 0.824 = 1.751
AMEL = 0.4870 (most limiting LTA) x 1.8270 x 0.824 = 0.733

Input data:	Receiving water pH, temperature, and salinity ("RW Data" tab)
	CV (Coefficient of Variation) and ECA, MDEL and AMEL multipliers ("EFF Data" tab)

Tentative: 09/16/2015