CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Los Angeles Regional Water Quality Control Board

April 20, 2016

CERTIFIED MAIL NO. 7013 1090 0000 7172 6192
RETURN RECEIPT REQUESTED

Mr. Michael LaCavera, General Manager
Vopak Terminal Long Beach, Incorporated
3601 Dock Street
San Pedro, CA 90731

Dear Mr. LaCavera:

TRANSMITTAL OF WASTE DISCHARGE REQUIREMENTS (WDRS) AND NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FOR VOPAK TERMINAL LONG BEACH, VOPAK TERMINAL LONG BEACH INC., SAN PEDRO, CA (NPDES NO. CA0064165, CI NO. 7873)

Our letter dated March 24, 2016, transmitted the tentative waste discharge requirements (WDRs) for renewal of your permit for the discharge of wastes under the National Pollutant Discharge Elimination System (NPDES) Program.

Pursuant to Division 7 of the California Water Code, this Regional Water Board at a public hearing held on April 14, 2016, reviewed the tentative requirements, considered all factors in the case, and adopted Order No. R4-2016-0142.

Order R4-2016-0142 serves as an NPDES permit, and it expires on May 31, 2021. Section 13376 of the California Water Code requires that an application/Report of Waste Discharge for a new permit must be filed at least 180 days before the expiration date.

You are required to implement the Monitoring and Reporting Program on the effective date (June 1, 2016) of Order No. R4-2016-0142. Your first monitoring report for the period of June 1, 2016, through June 30, 2016, is due by August 1, 2016. All monitoring reports should be sent to the Regional Board, using the State Water Board's California Integrate Water Quality System (CIWQS) Program. When submitting monitoring or technical reports to the Regional Board per these requirements, please include a reference to "Compliance File No. CI-7873 and NPDES No. CA0064165", which will assure that the reports are directed to the appropriate file and staff. Also, please do not combine other reports with your monitoring reports. Submit each type of report as a separate document.

We are sending the paper copy of the Permit to the Discharger only. For those on the mailing list or other interested parties who would like access to a copy of the Permit, please go to the Regional Water Board's website at:
http://www.waterboards.ca.gov/losangeles/board_decisions/adopted_orders/by_permits_tools.shtml.

If you have any questions, please contact Gensen Kai at (213) 576-6651.

Sincerely,

Cassandra D. Owens, Chief
Industrial Permitting Unit

Enclosures

Mailing List (Via Email Only)

cc: Environmental Protection Agency, Region 9, Permits Branch (WTR-5)
U.S. Army Corps of Engineers
NOAA, National Marine Fisheries Service
Department of Interior, U.S. Fish and Wildlife Service
Mr. William Paznokas, Department of Fish and Game, Region 5
Department of Public Health, Sanitary Engineering Section
California State Parks and Recreation
California Coastal Commission, South Coast Region
Los Angeles County, Department of Public Works, Waste Management Division
Los Angeles County, Department of Health Services
Ms. Rita Kampalath, Heal the Bay
Ms. Liz Crosson, LA Waterkeeper
Ms. Anna Kheyfets, Natural Resources Defense Council
Mr. Jae Kim, Tetra Tech
Ms. Kristy Allen, Tetra Tech

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

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ORDER R4-2016-0142
NPDES NO. CA0064165

WASTE DISCHARGE REQUIREMENTS FOR THE VOPAK TERMINAL LONG BEACH INC.

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

Table 1. Discharger Information

Discharger	Vopak Terminal Long Beach Inc.
Name of Facility	Vopak Terminal Long Beach Inc.
Facility Address	3601 Dock Street
	San Pedro, CA 90731
	Los Angeles County

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Treated storm water, boiler blowdown, fire system test water, truck rinse water, and compressor condensate water	33.7645639°	-118.2419639°	Cerritos Channel, within Long Beach Inner Harbor

Table 3. Administrative Information

This Order was adopted on:	**April 14, 2016**
This Order shall become effective on:	**June 1, 2016**
This Order shall expire on:	**May 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

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 April 14, 2016.

Samuel Unger

Samuel Unger, P.E., Executive Officer

January 20, 2016
Revised on March 23, 2016

CONTENTS

TABLES

ATTACHMENTS

I. FACILITY INFORMATION

Information describing the Vopak Terminal Long Beach Inc. (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 K are also incorporated into this Order.

C. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections IV.B, IV.C, and V.B are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

D. 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.

E. 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 R4-2010-0018 except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, 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 discharged at Discharge Point 001 shall be limited to a maximum of 288,000 gallons per day (GPD) of treated storm water, compressor condensate water, fire system test water, truck rinse water, and boiler blowdown as described in the Fact Sheet (Attachment F). The discharge of boiler blowdown is permitted only during periods of storm water discharge. 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 Cerritos Channel, 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.

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 Board will revise and modify this Order in accordance with such more stringent standards.

F. Discharge of oil or any residuary product of petroleum to waters of the State, except in accordance with waste discharge requirements or other provisions of Division 7 of the Water Code, is prohibited.

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

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

I. There shall be no discharge of polychlorinated biphenyl compounds such as those once commonly used for transformer fluid.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations

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 at Discharge Point 001

Parameter	Units	Effluent Limitations				Performance Goals
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Conventional Pollutants						
Biochemical Oxygen Demand (BOD) (5-day @ 20°C)	mg/L	20	30	--	--	--
	lbs/day[1]	48	72	--	--	--
Oil and Grease	mg/L	10	15	--	--	--
	lbs/day[1]	24	36	--	--	--
pH	standard units	--	--	6.5	8.5	--
Total Suspended Solids (TSS)[2]	mg/L	50	60	--	--	--
	lbs/day[1]	120	144	--	--	--
Non-conventional Pollutants						
Chronic Toxicity[3]	Pass or Fail, % Effect	Pass[4]	Pass or % Effect <50	--	--	--

Parameter	Units	Effluent Limitations				Performance Goals
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Phenols, Total	mg/L	--	1.0	--	--	--
	lbs/day[1]	--	2.4	--	--	--
Residual Chlorine	mg/L	--	0.1	--	--	--
	lbs/day[1]	--	0.24	--	--	--
Settleable Solids	ml/L	0.1	0.3	--	--	--
Sulfide, Total	mg/L	--	1.0	--	--	--
	lbs/day[1]	--	2.4	--	--	--
Temperature	ºF	--	--	--	86[5]	--
Total Petroleum Hydrocarbons (TPH)[6]	µg/L	--	100	--	--	--
	lbs/day[1]	--	0.24	--	--	--
Turbidity	NTU	50	75	--	--	--
Priority Pollutants						
Copper, Total Recoverable[2]	µg/L	2.9	6.5	--	--	--
	lbs/day[1]	0.007	0.016	--	--	--
Lead, Total Recoverable[2]	µg/L	7	14	--	--	--
	lbs/day[1]	0.017	0.034	--	--	--
	lbs/day[1]	0.02	0.03	--	--	--
Zinc, Total Recoverable[2]	µg/L	49	150	--	--	--
	lbs/day[1]	0.12	0.36	--	--	--
4,4-DDT[2]	µg/L	0.00059	0.0012	--	--	--
	lbs/day[1]	1.4×10^{-6}	2.8×10^{-6}	--	--	--
Total PCBs [2, 7]	µg/L	0.00017	0.00034	--	--	--
	lbs/day[1]	4.1×10^{-7}	8.2×10^{-7}	--	--	--
Tetrachloroethylene	µg/L	8.9	17.8	--	--	--
	lbs/day[1]	0.02	0.042	--	--	--
Benzo(a)pyrene[8]	µg/L	--	--	--	--	0.049
Chrysene[8]	µg/L	--	--	--	--	0.049
TCDD Equivalents[9]	µg/L	1.40×10^{-8}	2.80×10^{-8}	--	--	--
	lbs/day[1]	3.40×10^{-11}	6.70×10^{-11}	--	--	--

[1] Mass loading limitations applicable to Discharge Point 001 are based on the maximum discharge flow of 288,000 GPD.

[2] During each reporting period, if effluent monitoring results exceed both a TSS effluent limit and a California Toxics Rule (CTR) total maximum daily load (TMDL)-based effluent limitation or performance goal for copper, lead, zinc, 4,4-dichlorodiphenyltrichloroethane) (4,4-DDT), total polychlorinated biphenyls (total PCBs), or polycyclic aromatic hydrocarbons [(PAHs), (benzo(a)pyrene and chrysene)] as specified in Table 4 of this Order, then the Discharger has not demonstrated compliance with the interim sediment allocations (Monitoring Thresholds, Table 5 of this Order) specified by the Harbor Toxics TMDL, Resolution No. R11-008 (page 11, Item 2) and the Discharger is required to implement the effluent sediment monitoring program for that priority pollutant. The Discharger shall begin the effluent sediment monitoring program during the first discharge 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 compliance with the interim sediment allocation and additional effluent sediment monitoring for those pollutants 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 3-year average concentration for effluent sediment monitoring results is at or below the interim sediment allocation.

[3] The median monthly effluent limitation (MMEL) shall be reported as "Pass" or "Fail". The maximum daily effluent limitation (MDEL) shall be reported as "Pass" or "Fail" and "% Effect". The MMEL for chronic toxicity shall only apply when there is a discharge more than 1 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".

[4] This is an MMEL.

[5] The discharge of an effluent with a maximum temperature more than 20ºF above the natural receiving water temperature is prohibited.

[6] TPH equals the sum of TPH gasoline (C4-C12) and TPH diesel (C13-C22), and TPH waste oil (C23+).

[7] 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

[8] CTR human health criteria are not promulgated for total PAHs. Therefore, performance goals are based on CTR human health criteria for the individual PAHs, benzo(a)pyrene and chrysene. Benzo(a)pyrene and chrysene are selected because the State's 2012 303(d) List classifies the Los Angeles/Long Beach Inner Harbor as impaired for these PAH compounds. These performance goals are not enforceable effluent limitations. Rather, they act as triggers to determine when sediment monitoring is required for these compounds.

[9] TCDD equivalents shall be calculated using the following formula, where the ML's and the 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 ML's to zero. U.S. EPA method 1613 may be used to analyze dioxin and furan congeners.

Dioxin-TEQ (TCDD equivalents) = Σ(Cx x TEFx)
where: Cx = concentration of dioxin or furan congener x
TEFx= 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

b. **Bacteria Limitations for Discharge Point 001**

i. Rolling 30-day Geometric Mean Limits

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

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

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

ii. Single Sample Maximum (SSM)

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

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

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

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

iii. The median total coliform concentration throughout the water column for any 30-day period shall not exceed 70/100 ml, nor shall more than 10 percent of the samples collected during any 30-day period exceed 230/100 ml for a five-tube decimal dilution test or 330/100 ml when a three-tube decimal dilution test is used.

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 Cerritos Channel:

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
   a. Rolling 30-day Geometric Mean Limits
      i. Total coliform density shall not exceed 1,000 CFU/100 ml.
      ii. Fecal coliform density shall not exceed 200 CFU/100 ml.
      iii. Enterococcus density shall not exceed 35 CFU/100 ml.
   b. Single Sample Maximum (SSM)
      i. Total coliform density shall not exceed 10,000 CFU/100 ml.
      ii. Fecal coliform density shall not exceed 400 CFU/100 ml.
      iii. Enterococcus density shall not exceed 104 CFU/100 ml.
      iv. Total coliform density shall not exceed 1,000 CFU/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 3 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. The presence of visible, floating, suspended or deposited macroscopic particulate matter or foam.
7. 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.
8. Suspended or settleable materials, chemical substances or pesticides in amounts that cause nuisance or adversely affect any designated beneficial use.
9. 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.
10. Accumulation of bottom deposits or aquatic growths.
11. Biostimulatory substances at concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.
12. The presence of substances that result in increases of BOD that adversely affect beneficial uses.
13. 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.
14. Alteration of turbidity, or apparent color beyond present natural background levels.
15. Damage, discolor, or formation of sludge deposits on flood control structures or facilities, or overloading of the design capacity.
16. Degradation of surface water communities and populations including vertebrate, invertebrate, and plant species.
17. Problems associated with breeding of mosquitoes, gnats, black flies, midges, or other pests.
18. Nuisance, or adversely affect beneficial uses of the receiving water.
19. Violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or State Water Board.

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 sections 122.44, 122.62, 122.63, 122.64, 125.62 and 125.64 of title 40 of the Code of Federal Regulations (40 C.F.R.). 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.

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.

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. Notification shall include submittal of a new report of waste discharge and the appropriate filing fee.

k. The Discharger shall 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.

l. 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 intermediate or final product or byproduct of any toxic pollutant that was not reported on their application.

m. 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, copy of which shall be forwarded to the Regional Water Board.

n. 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.

o. 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.

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

q. 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. U.S. EPA registration number, if applicable.

r. 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.

s. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, average monthly effluent limitation, maximum daily effluent limitation, instantaneous minimum effluent limitation, instantaneous maximum effluent limitation, 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.

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

B. Monitoring and Reporting Program (MRP) Requirements

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

C. Special Provisions

1. Reopener Provisions

a. 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.

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

c. This Order may be reopened and modified, to incorporate 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 ML's.

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 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.

f. 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.

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**

i. The monitoring thresholds in Table 5 of this Order are based on the Harbor Toxics TMDL's interim sediment allocations (Greater Los Angeles and Long Beach Harbor Waters) for copper, lead, zinc, DDT, PAHs, and PCBs. Compliance with these thresholds shall be demonstrated in accordance with Footnote 2 to Table 4 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. This monitoring is only required in years in which a discharge from the Facility to the receiving water occurs.

Table 5. Interim Sediment Monitoring Thresholds

Pollutant	Sediment Allocations	Units
Copper	142.3	mg/kg
Lead	50.4	mg/kg
Zinc	240.6	mg/kg
DDT	0.070	mg/kg
PAHs[1]	4.58	mg/kg
PCBs	0.060	mg/kg

1. According to the Sediment Quality Plan, total PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthene, anthracene, biphenyl, naphthalene, 2,6-dimethylnaphthalene, fluorene, 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.

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 the 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 the Order and submit them to the Regional Water Board within 12 months of the effective date of the 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 as detailed in the sediment triad sampling as specified in the *State Water Quality Control Plan for Enclosed bays and Estuaries – Part 1 Sediment Quality* (SQO Part 1) shall be performed once every 5 years in coordination with the Biological Baseline and Bight regional monitoring programs, if possible. It shall include the full chemical suite, two sediment toxicity tests, and four benthic indices as specified in the SQO Part 1. At the Station ID in the Table 6, 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[1]	
			Water Column	Sediment
Long Beach Inner Harbor	12	Cerritos Channel between the Heim Bridge and Turning Basin	Flow, Temperature, DO, pH, Salinity, TSS, Metals[2], PCBs, DDT	Metals[2], Toxicity, Benthic Community Effect
	13	Back Channel between Turning Basin and West Basin		
	14	Center of West Basin		
	15	Center of Southeast Basin		

1. Based on Harbor Toxics TMDL (Attachment A to Resolution No. R11-008, page 26)
2. Metals: copper, lead, and zinc.

iv. **Fish Tissue Monitoring**

Fish tissue samples shall be collected every 2 years from 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.

v. **Sampling and Analysis Plan**

The Sampling and Analysis Plan must be proposed based on methods or metrics described in the *State Water Board Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality* (Resolution 2008-0070 – SQO Part 1), and the U.S. EPA or American Society for Testing and Materials (ASTM). The plan shall include a list of chemical analytes for the water column and sediment.

vi. **Quality Assurance Project Plan**

The Quality Assurance Project Plan (QAPP) shall describe the project objectives and organization, functional activities, and quality assurance/quality control protocols for the water and sediment monitoring. The QAPP shall include protocols for sample collection, standard analytical procedures, and laboratory certification. All samples shall be collected in accordance with Surface Water Ambient Monitoring Program (SWAMP) protocols.

The details of the Harbor Toxics TMDL Water and Sediment Monitoring Plan, including sampling locations and all methods, shall be specified in the Monitoring Plans submitted to the Executive Officer.

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 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 Best Management Practices Plan (BMPP), that include 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 *U.S. EPA Guidance Manual for Developing Best Management Practices* (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 plans shall be reviewed annually and at the same time. Updated information shall be submitted within 30 days of revision.

The Discharger shall implement the SWPPP, BMPP, and SCP 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 reviewed annually and 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. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

6. Other Special Provisions – Not Applicable

7. 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= [$X_{n/2}$ + $X_{(n/2)+1}$], 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.

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 additional samples as the Discharger is able to on a weekly basis for any/all subsequent discharges for the month that occur. All analytical results for samples collected during the month period 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 all samples collected 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 the samples collected shall be used for compliance determination. If one or both of the middle values is ND or DNQ, the median shall be the lower of the two middle values.
3. 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).

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 single-effluent concentration chronic toxicity test at the discharge instream waste concentration (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 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.

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:

$$\text{Geometric Mean} = (C1 \times C2 \times \ldots \times Cn)^{1/n}$$

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 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 July 1, 2009), unless alternate methods have been approved by U.S. EPA pursuant to 40 C.F.R. part 136 or improved methods have been determined by the Executive Officer and/or U.S. EPA.

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 1 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.

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).

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 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.

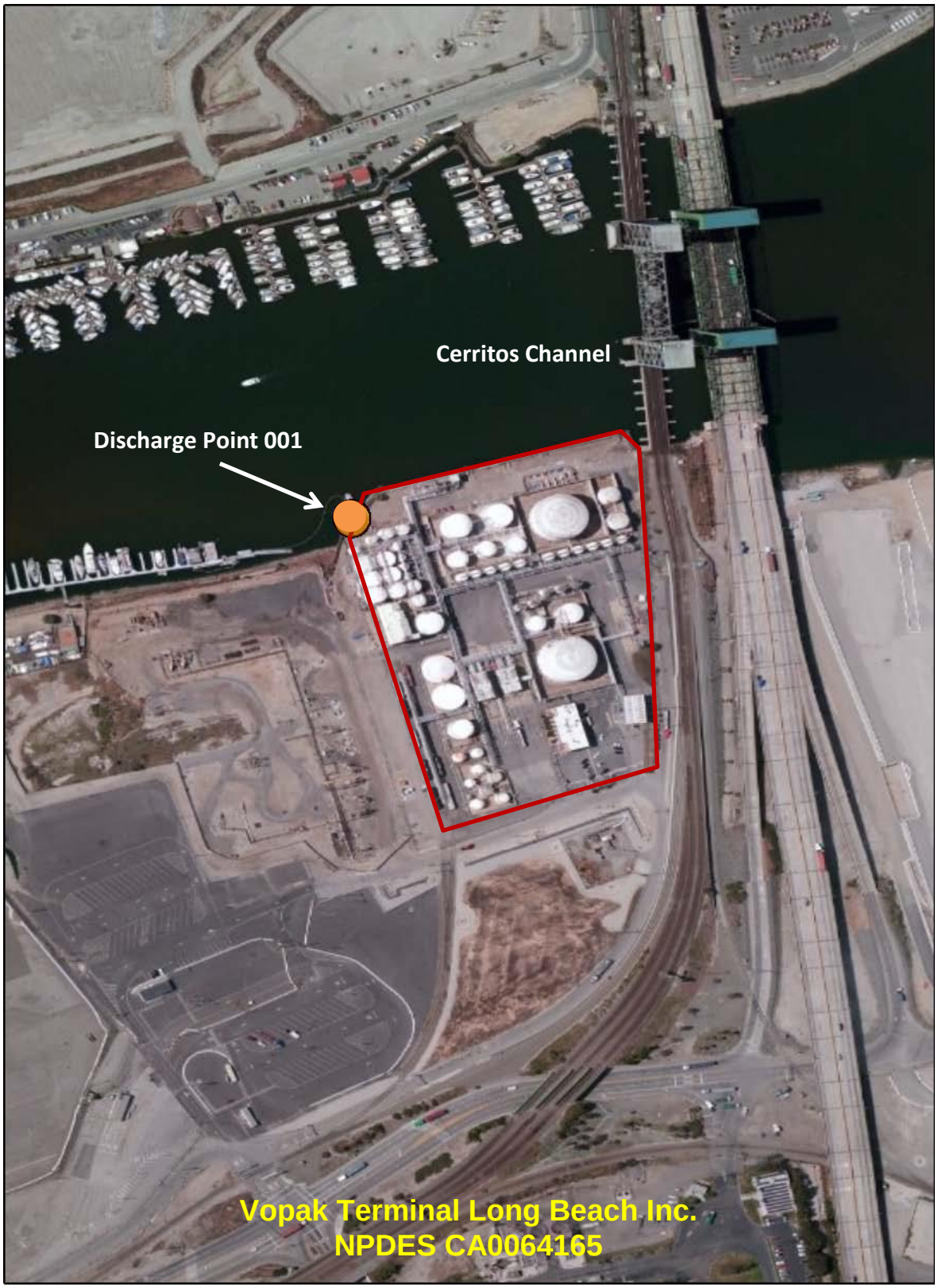
Standard Deviation (σ)
Standard Deviation is a measure of variability that is calculated as follows:

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

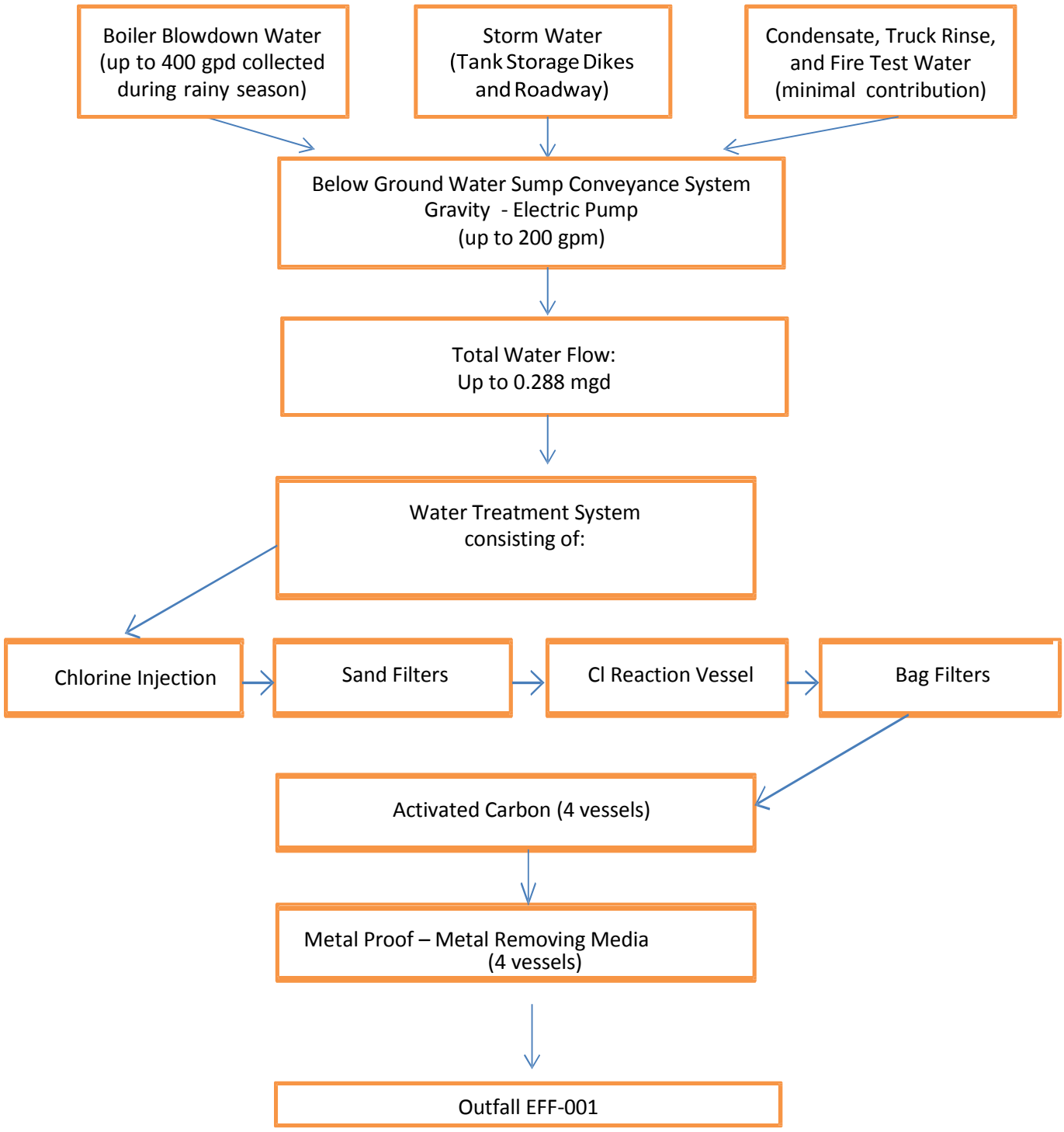
where:
x is the observed value;
μ is the arithmetic mean of the observed values; and
n is the number of samples.

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.)

ATTACHMENT B – MAP



ATTACHMENT C – FLOW SCHEMATIC



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):

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).)

5. Notice

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

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

H. Upset

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

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

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

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

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

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

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

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

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of 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 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 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).)

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).)

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)):

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).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM CI-7873

CONTENTS

TABLES

ATTACHMENT E – MONITORING AND REPORTING PROGRAM CI-7873

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 Monitoring and Reporting Program (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 point of discharge (Discharge Point 001 [Latitude 33.7645639°, Longitude -118.2419639°]) 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 August 19, 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 U.S. EPA guidelines or in the MRP, the constituent or parameter analyzed and the method or procedure used must be specified in the monitoring report.

F. Each monitoring report must affirm in writing that "*all analyses were conducted at a laboratory certified for such analyses by the State Water Board Division of Drinking Water or approved by the Executive Officer and in accordance with current U.S. EPA 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 ML's (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 ML's employed for effluent analyses to determine compliance with effluent limitations established in this Order shall be lower than the permit limitations established for a given

parameter as per the National Pollutant Discharge Elimination System (NPDES): Use of Sufficiently Sensitive Test Methods for Permit Applications and Reporting at 40 C.F.R. parts 122 and 136. 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 NPDES: Use of Sufficiently Sensitive Test Methods for Permit Applications and Reporting at 40 C.F.R. parts 122 and 136. 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:

a. When the pollutant under consideration is not included in Attachment H;

b. When the Discharger and Regional Water Board agree to include in the permit a test method that is more sensitive than that specified in 40 C.F.R. part 136 (revised May 18, 2012);

c. When the Discharger agrees to use an ML that is lower than that listed in Attachment H;

d. 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,

e. When the Discharger uses a method whose quantification practices are not consistent with the definition of an ML. Examples of such methods are the U.S. EPA-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 40 C.F.R. 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, MDL's, 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.

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. Provided that the Discharger is selected to participate in the USEPA Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program, it shall ensure that the results of the DMR-QA Study Program or the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Resources Control Board at the following address:

State Water Board Quality Assurance Program Officer
Office of Information Management and Analysis
State Water Resources Control Board
1001 I Street, Sacramento, CA 95814

O. 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.

P. 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.

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

R. Laboratory Certification. Laboratories analyzing monitoring samples shall be certified by the Division of Drinking Water, in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	EFF-001	A location where a representative sample of treated effluent can be obtained from Discharge Point 001 prior to discharge into the Cerritos Channel, Long Beach Inner Harbor Latitude 33.7645639°, Longitude -118.2419639°
--	RSW-001	At a location outside the influence of the effluent discharge locations, and at least 50 feet in the opposite direction of tidal flow in the Cerritos Channel, Long Beach Inner Harbor: Latitude: 33.7645556°, Longitude -118.2420000° (Low Tide) Latitude: 33.7648333º, Longitude - 118.2416667º (High Tide)

III. INFLUENT MONITORING REQUIREMENTS – NOT APPLICABLE

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations EFF-001

1. The Discharger shall monitor treated combined effluent (composed of storm water, compressor condensate water, fire system test water, truck rinse water, and boiler blowdown) at Monitoring Locations EFF-001 as follows.

Table E-2. Effluent Monitoring at Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Flow[1]	Gallons	Meter	1/Discharge Event[2]	--
Daily Average Flow[1]	GPD or MGD	Meter	1/Discharge Event[2]	--
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L, lbs/day[3]	Grab	1/Discharge Event[2]	[4]
Oil and Grease	mg/L, lbs/day[3]	Grab	1/Discharge Event[2]	[4]
pH	standard units	Grab	1/Discharge Event[2]	[4]
Total Suspended Solids (TSS)[5]	mg/L, lbs/day[3]	Grab	1/Discharge Event[2]	[4]
Total Coliform	MPN/ 100 mL	Grab	1/Discharge Event[2]	[4, 6]
Fecal Coliform	MPN/ 100 mL	Grab	1/Discharge Event[2]	[4, 6]
Enterococcus	MPN/ 100 mL	Grab	1/Discharge Event[2]	[4, 6]
Chronic Toxicity	Pass or Fail and % Effect (TST)	Grab	1/Year[7]	[8]
Phenols, Total	mg/L, lbs/day[3]	Grab	1/Year[7]	[4]
Residual Chlorine	mg/L, lbs/day[3]	Grab	1/Discharge Event[2]	[4]
Settleable Solids	ml/L	Grab	1/Discharge Event[2]	[4]
Sulfide, Total	mg/L, lbs/day[3]	Grab	1/Discharge Event[2]	[4]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Temperature	^{o}F	Grab	1/Discharge Event[2]	[4]
Total Petroleum Hydrocarbons (TPH) as Gasoline (C_4-C_{12})	µg/L, lbs/day[3]	Grab	1/Discharge Event[2]	EPA Method 503.1 or 8015B
Total Petroleum Hydrocarbons (TPH) as Diesel (C_{13}-C_{22})	µg/L, lbs/day[3]	Grab	1/Discharge Event[2]	EPA Method 503.1, 8015B, or 8270
Total Petroleum Hydrocarbons (TPH) as Waste Oil (C_{23+})	µg/L, lbs/day[3]	Grab	1/Discharge Event[2]	EPA Method 503.1, 8015B, or 8270
Turbidity	NTU	Grab	1/Discharge Event[2]	[4]
Copper, Total Recoverable[5]	µg/L, lbs/day[3]	Grab	1/Discharge Event[2]	[4]
Lead, Total Recoverable[5]	µg/L, lbs/day[3]	Grab	1/Discharge Event[2]	[4]
Zinc, Total Recoverable[5]	µg/L, lbs/day[3]	Grab	1/Discharge Event[2]	[4]
4,4-DDT[5, 10]	µg/L, lbs/day[3]	Grab	1/Discharge Event[2]	[4]
Total PCBs[5, 10, 12]	µg/L, lbs/day[3]	Grab	1/Discharge Event[2]	[4]
Tetrachloroethylene	µg/L, lbs/day[3]	Grab	1/Discharge Event[2]	[4]
Benzo(a)pyrene[5, 10]	µg/L	Grab	1/Discharge Event[2]	[4]
Chrysene[5, 10]	µg/L	Grab	1/Discharge Event[2]	[4]
TCDD Equivalents[13]	µg/L, lbs/day[3]	Grab	1/Discharge Event[2]	[4]
Remaining Priority Pollutants[13]	µg/L	Grab	1/Year[7]	[4]

[1] The Discharger shall measure flow using the flow meter on-site. The Discharger shall report the total daily flow (gallons/day). Total waste flow will indicate the volume of water (in gallons) discharged with each batch discharge event. The Discharger shall also calculate the daily average flow for each discharge event by dividing the total discharge flow by the number of days over which the discharge occurred; this shall represent the daily average flow (MGD). Periods of no flow shall also be reported.

[2] During periods of extended discharge, no more than one sample per week needs to be taken. For TCDD equivalents, no more than one sample per month needs to be taken. Sampling shall be performed during the first hour of discharge. If, for safety reasons, a sample cannot be obtained during the first hour of discharge, a sample shall be obtained at the first safe opportunity, and the reason for the delay shall be included in the report.

[3] The mass emission (lbs/day) for the discharge shall be calculated and reported using the limitation concentration and the actual flow rate measured at the time of discharge, using the formula:

$M = 8.34 \times Ce \times Q$

where: M = mass discharge for a pollutant, lbs/day
Ce = Reported concentration for a pollutant in mg/L
Q = actual discharge flow rate (MGD).

[4] 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 ML's specified in Attachment 4 of the SIP, provided in Attachment H. Where no methods are specified for a given pollutant, the methods must be approved by the 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 ML necessary to demonstrate compliance with applicable effluent limitations.

[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)anthracene, benzo(a)pyrene, chrysene or pyrene as specified in Table 4 of this Order, then the Discharger has not demonstrated attainment with the interim sediment allocations (Monitoring Thresholds, Table 5, of this Order) stipulated by the Harbor Toxics TMDL, Resolution No. R11-008, page 11. Therefore, 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 allocation (Monitoring Thresholds) in Table 5 of this Order, demonstrates attainment with the interim sediment allocation and additional effluent sediment monitoring for those pollutants 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 3-year average concentration for effluent sediment monitoring results is at or below the interim sediment allocation.

[6] Detection methods used for coliforms (total and fecal) and *Enterococcus* shall be those presented in Table 1A of 40 C.F.R. section 136, unless alternate methods have been approved by U.S. EPA pursuant to 40 C.F.R. part 136 or improved methods have been determined by the Executive Officer and/or U.S. EPA.

[7] Annual samples and the first of the semi-annual samples shall be collected during the first hour of discharge from the first storm event of the wet season (October 1 – May 30). If there is no discharge to surface waters, the Discharger will indicate in the corresponding monitoring report that no effluent was discharged to surface water during the reporting period.

[8] The Discharger shall conduct Whole Effluent Toxicity monitoring as outlined in section V. Refer to section V.A.7 of this MRP for the accelerated monitoring schedule. The median monthly summary result shall be reported as "Pass" or "Fail". The maximum daily single result shall be reported as "Pass or Fail" and "% Effect". When there is discharge more than 1 day in a calendar month period, up to three independent toxicity tests are required when one toxicity test results in "Fail".

[9] The Discharger shall use ultra-clean sampling (U.S. EPA Method 1669) and ultra-clean analytical methods (U.S. EPA Method 1631) for mercury monitoring. The minimum level for mercury is 2 ng/l (or 0.002 µg/l).

[10] Samples analyzed must be unfiltered samples.

[11] The Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant (i.e., sampling and analysis shall be conducted using ultra-clean techniques.)

[12] 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

[13] TCDD equivalents shall be calculated using the following formula, where the ML's and the 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 ML's to zero. U.S. EPA method 1613 may be used to analyze dioxin and furan congeners.

Dioxin-TEQ (TCDD equivalents) = Σ(Cx x TEFx)
where: Cx = concentration of dioxin or furan congener x
TEFx= 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

Congeners	Minimum Levels (pg/L)	Toxicity Equivalence Factor (TEF)
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

[14] Priority Pollutants as defined by the California Toxics Tule (CTR) defined in Attachment I to this Order.

2. **Effluent Sediment Monitoring at Monitoring Location EFF-001**

Effluent sediment monitoring is only required during years in which an exceedance occurs as described in Footnote 2 to Table 4 of this Order. 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 point following final treatment, prior to the discharge entering the receiving water. The exact location of the sampling point must be stipulated in the initial self-monitoring report. The sediment sampling shall be conducted according to methods or metrics described in 40 C.F.R. part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act* and the State Water Board Sediment Quality Plan. The Discharger must collect sufficient effluent sample to provide an adequate amount of effluent sediments (suspended solids) for sediment analyses.

Table E-3. Effluent Sediment Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test 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] Monitoring is only required during years in which a discharge occurs and sediment monitoring is triggered as specified in Footnote 2 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, if a discharge from the facility occurs.

[2] Pollutants shall be analyzed in accordance with U.S. EPA or ASTM methodologies where such methods exist. Where no U.S. EPA 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'- 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 Toxicity Identification Evaluation (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 monthly for a period of three months during this permit's first required sample collection event. The Discharger shall collect a single effluent sample and concurrently conduct three toxicity tests, using the fish, an invertebrate, and the alga species as referenced in this section. The sample shall also be analyzed for the parameters required for the discharge during that given month. As allowed under the test method for the Topsmelt, a second and third sample may be collected for use as test solution renewal water as the 7-day toxicity test progresses. The species that exhibits the highest "Percent Effect" at the discharge IWC during species sensitivity screening shall be used for the routine monitoring during the permit cycle. Likewise, if two or more species result in "Fail," then the species that exhibits the highest "Percent Effect" at the discharge IWC during the suite of species sensitivity screening shall be used for routine monitoring during the permit cycle, until such time as a rescreening is required (5 years later).

Species sensitivity rescreening is required every 5 years. The Discharger shall rescreen with the fish, an invertebrate, and the alga species previously referenced and continue to monitor with the most sensitive species. If the first suite of rescreening tests demonstrates that the same species is the most sensitive then the rescreening does not need to include more than one 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, but not to exceed five suites.

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

5. **Quality Assurance and Additional Requirements**

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

a. The discharge is subject to determination of "Pass" or "Fail" 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 1 day in a calendar month period. During such calendar months, exactly three independent toxicity tests are required when one toxicity test results in "Fail".

c. 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.

d. Monthly reference toxicant testing is sufficient. All reference toxicant test results should be reviewed and reported.

e. 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 Toxicity Reduction Evaluation (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 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 the Facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in operations at the facility.

c. If a TIE is necessary, an indication of the person 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 1 day in a calendar month. The single result shall be used when there is discharge of only 1 day in a calendar month.

Once the Discharger becomes aware of this result, the Discharger shall implement an accelerated monitoring schedule within 36 hours. The accelerated monitoring schedule shall consist of four, five-concentration toxicity tests (including the discharge IWC), conducted at approximately 2 week intervals, over an 8 week period. If each of the accelerated toxicity tests results in "Pass", the Discharger shall return to routine monitoring for the next monitoring period. If one of the accelerated toxicity tests 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 the EPA manual *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989) and, within 15 days, submit to the Executive Officer a Detailed TRE Work Plan, the 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. The potential sources of pollutants causing toxicity. Follow up monitoring to demonstrate that toxicity has been removed.

ii. Recommended BMPs and/or treatment to reduce the pollutant(s) causing toxicity.

iii. Actions the Discharger will take to mitigate the effects of the discharge and prevent the recurrence of toxicity.

iv. 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, U.S. 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 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 continue to conduct routine effluent monitoring for compliance determination purposes while the TIE and/or TRE process is taking place. 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.

B. Ammonia Removal

1. Except with prior approval from the Executive Officer of the Regional Water Board, ammonia shall not be removed from bioassay samples. The Discharger must

demonstrate the effluent toxicity is caused by ammonia because of increasing test pH when conducting the toxicity test. It is important to distinguish the potential toxic effects of ammonia from other pH sensitive chemicals, such as certain heavy metals, sulfide, and cyanide. The following may be steps to demonstrate that the toxicity is caused by ammonia and not other toxicants before the Executive Officer would allow for control of pH in the test.

a. There is consistent toxicity in the effluent and the maximum pH in the toxicity test is in the range to cause toxicity due to increased pH.

b. Chronic ammonia concentrations in the effluent are greater than 4 mg/L total ammonia.

c. Conduct graduated pH tests as specified in the toxicity identification evaluation methods. For example, mortality should be higher at pH 8 and lower at pH 6.

d. Treat the effluent with a zeolite column to remove ammonia. Mortality in the zeolite treated effluent should be lower than the non-zeolite treated effluent. Then add ammonia back to the zeolite-treated samples to confirm toxicity due to ammonia.

2. When it has been demonstrated that toxicity is due to ammonia because of increasing test pH, pH may be controlled using appropriate procedures which do not significantly alter the nature of the effluent, after submitting a written request to the Regional Water Board, and receiving written permission expressing approval from the Executive Officer of the Regional Water Board.

C. Chlorine Removal

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

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Surface Water Monitoring (Monitoring Location RSW-001)

1. The Discharger shall monitor the receiving water at Monitoring Location RSW-001 as follows:

Table E-4. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency[1]	Required Analytical Test Method
Ammonia Nitrogen, Total (as N) [3]	mg/L	Grab	1/Semiannual	[2]
pH[3]	standard units	Grab	1/Semiannual	[2]
Salinity[3]	psu	Grab	1/Semiannual	[2]
Temperature[3]	^{o}C	Grab	1/Semiannual	[2]
Total coliform	MPN/100 mL	Grab	1/Year	[2]
Fecal coliform	MPN/100 mL	Grab	1/Year	[2]
Enterococcus	MPN/100 mL	Grab	1/Year	[2]
Chronic Toxicity[4]	% survival and Pass[5] or Fail for TST approach	Grab	1/Year	[2]
TCDD Equivalents[6]	µg/L	Grab	1/Year	[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency[1]	Required Analytical Test Method
Remaining priority pollutants[7]	µg/L	Grab	1/Year	[2]

1. Sampling shall be during the first hour of the first discharge event of the year. If, for safety reasons, a sample cannot be obtained during the first hour of discharge, a sample shall be obtained at the first safe opportunity, and the reason for the delay shall be included in the report. If there is no discharge to surface waters, no sampling is required and the Discharger will indicate in the corresponding monitoring report, under statement of perjury that no effluent was discharged to surface water during the reporting period.
2. 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 ML's 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.
3. Receiving water pH, temperature, salinity and ammonia must be collected at the same time the samples are collected for Priority Pollutants analysis. A hand-held field meter may be used for pH and temperature, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
4. The median monthly effluent limitation (MMEL) shall be reported as "Pass" or "Fail". The maximum daily effluent limitation (MDEL) shall be reported as "Pass" or "Fail" and "% Effect". The MMEL for chronic toxicity shall only apply when there is a discharge more than 1 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".
5. This is an MMEL.
6. TCDD equivalents shall be calculated using the following formula, where the ML's and the 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 ML's to zero. U.S. EPA method 1613 may be used to analyze dioxin and furan congeners.

   Dioxin-TEQ (TCDD equivalents) = Σ(Cx x TEFx)

   where: Cx = concentration of dioxin or furan congener x
   TEFx= 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

[7.] Priority Pollutants as defined by the California Toxics Rule (CTR) defined in Finding II.I of the Limitations and Discharge Requirements of this Order, and included as Attachment I. Annual samples shall be collected during the first hour of discharge from the first storm event of the wet season (October 1 – May 30). If, for safety reasons, a sample cannot be obtained during the first hour of discharge, then a sample shall be obtained, at first safe opportunity within 12 hours of the beginning of storm water discharge.

IX. OTHER MONITORING REQUIREMENTS

A. Rainfall Monitoring

The Discharger shall measure and record the rainfall on each day of the month or submit the data obtained from the nearest city/county operated rain gauge monitoring station. This information shall be included in the monitoring report for that month.

B. Visual Observation

The Discharger shall make visual observations of all storm water discharge locations on at least one storm event per month that produces a significant storm water discharge to observe the presence of floating and suspended materials, oil and grease, discoloration, turbidity, and odor.

C. 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.

If the Discharger intends to address the Plan requirements in combination with another facility or by joining a group already formed, the Plan must address monitoring requirements for all water bodies to which discharges occur. Any modifications to include additional water bodies and/or additional monitoring requirements must be submitted 12 months after the effective date of the permit for public review and, subsequently, Executive Officer approval.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
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. The Discharger shall inform the Regional Water Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.

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

B. Self-Monitoring Reports (SMR's)

1. The Discharger shall electronically submit SMR's 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 quarterly SMR's including the results of all required monitoring using U.S. EPA-approved test methods or other test methods specified in this Order. SMR's 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	Permit effective date	All	Submit with quarterly SMR
Daily	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with quarterly SMR
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1st day of calendar month through last day of calendar month	Submit with quarterly SMR
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	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	Closest of January 1 or July 1 following (or on) permit effective date	January 1 – June 30 July 1 – December 31	August 1 February 1
Annually	January 1 following (or on) permit effective date	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:

   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 SMR's in accordance with the following requirements:

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

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

C. Discharge Monitoring Reports (DMRs)

As of the effective date of this Order, if the Discharger operates a "minor" facility as designated on page 1 of this Order, submittal of DMRs is not required. However, at any time during the term of this Order, the State Water Board or the Regional Water Board may notify and required 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. Investigation TRE workplan

   b. Updated SWPPP

   c. Updated BMPP

   d. Updated SCP

   The SWPPP, BMPP, and SCP status shall be reviewed at a minimum once per year and updated as needed to ensure all actual or potential sources of pollutants in wastewater and storm water discharged from the facility are addressed. All changes or revisions to the SWPPP, BMPP, and SCP shall be submitted to the Regional Water Board within 30 days of revisions.

2. According to 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, as specified in section VI.C.2.c. The annual report shall be received by the Regional Water Board by the specified date in the proposed Monitoring Plan and Quality Assurance Project Plan (QAPP).

3. 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 this waste discharge, including quantities of each. Any subsequent changes in types and/or quantities shall be reported promptly.

ATTACHMENT F – FACT SHEET

CONTENTS

TABLES

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	4B192614001
Discharger	Vopak Terminal Long Beach Inc.
Name of Facility	Vopak Terminal Long Beach Inc.
Facility Address	3601 Dock Street
	San Pedro, CA 90731
	Los Angeles County
Facility Contact, Title and Phone	Chris Blatter, Safety Health and Environmental Quality Manager, (310) 221-5957
Authorized Person to Sign and Submit Reports	Michael LaCavera, General Manager, (310) 549-0961
Mailing Address	Same as Facility Address
Billing Address	401 Canal Street, Wilmington, CA 90744
Type of Facility	Bulk Liquid Chemical Storage and Transfer Terminal
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	B
Pretreatment Program	N/A
Recycling Requirements	N/A
Facility Permitted Flow	Discharge Point 001 – 288,000 gallons per day (GPD)
Facility Design Flow	Discharge Point 001 – 288,000 GPD
Watershed	Dominguez Channel and Los Angeles-Long Beach Harbors Watershed
Receiving Water	Cerritos Channel within the Long Beach Inner Harbor
Receiving Water Type	Enclosed Bay

A. Vopak Terminal Long Beach, Inc. (hereinafter Discharger) is the owner and operator of the Vopak Terminal Long Beach (hereinafter Facility), a bulk liquid chemical storage and transfer terminal [Standard Industrial Classification (SIC) Code 4226].

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 to the Cerritos Channel, within the Long Beach Inner Harbor, a water of the United States. The Discharger was previously regulated by Order R4-

2010-0018 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0064165 adopted on February 4, 2010. The Order expired on January 10, 2015. 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 dated July 7, 2014. The application was deemed complete on January 15, 2016. Staff from the consultant for U.S. EPA, PG Environmental, LLC and the Regional Water Board visited the site on November 19, 2014 and October 16, 2015, respectively to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.

II. FACILITY DESCRIPTION

The Facility receives shipments of bulk liquid chemicals by rail and tanker ships. The Facility has 55 aboveground storage tanks to store biodiesel, chlorinated solvents, non-halogenated solvents, caustics, organic liquids, amines, oil, and petroleum distillates. Tanker trucks are then filled from the storage tanks with the final products for distribution.

A. Description of Wastewater and Biosolids Treatment and Controls

Wastewaters discharged from the Facility are mainly storm water runoff through the operation areas where potential sources of pollutants may exist. Compressor condensate water, fire system test water, truck rinse water, and boiler blowdown are also discharged with the storm water.

A brief description of the operation areas of the Facility is listed below:

1. **Railcar Off-Loading Area** – Hazardous chemicals are off-loaded from railroad cars and transferred to the aboveground storage tanks in this area.
2. **Marine Tanker Off-Loading Area –** Two spill pans are located on the dock for the purpose of containing spills or leaks.
3. **Tank Truck Loading Area –** This area consists of five truck scales, four of which are located in scale pits, and the fifth being completely aboveground. A sixth loading spot is located on the east side of the Facility. All six loading areas have concrete secondary containment features.
4. **Hydrostatic Test Area –** This area is used for pressure testing of marine tanker transfer piping. Accumulated storm water can be drained from the secondary containment area through a manual valve.
5. **Surfaces Near or On Tanks T-218** – The tank is used for the storage of tetrachloroethylene.
6. **Hazardous Waste Storage Pad –** Small containers of chemical product samples are stored in walk-in storage cabinets and some waste handling takes place in this area.
7. **Aboveground Storage Tank Confinement Areas** – All storage tanks are used for the storage of chemicals.

8. **Forklift Truck Maintenance Area** – This area is used for the maintenance of forklift trucks and on-site vehicles. These operations involve the use of lubricating oils, solvents, and paints.

9. **Ultra Low Sulfur Diesel (ULSD) Load Station** – This area consists of two bays of concrete containment and features automated self-loading by trained Facility employees.

10. **Off-Loading Gasoline Station #6 –** This station receives gasoline via tank truck and features concrete containment.

11. **Drum Storage Area** – Drum storage areas are for the storage of chemical additives and empty drums. Chemical additives are stored within the former naphthyl unloading area and empty drums are stored within a bermed area.

The Facility uses a system of dikes and drains to direct storm water flows to a centralized sump pump. If there is a need to discharge accumulated storm water, the sump pump directs the storm water to the Facility treatment system prior to discharge. The treatment system, as shown in Attachment C, consists of chlorination (injector pump and reaction tank), filtration (sand and bag filters), adsorption (granular activated carbon vessels and MetalPROOF vessels).

After the treatment, representative water samples are taken and tested for compliance with the NPDES discharge requirements prior to discharge. If the accumulated storm water doesn't meet effluent limitations, then it is stored in one of two tanks and eventually transported off-site for disposal. Generally the loading, off-loading, and storage areas within the Facility have secondary containment systems in place in case of product spillage in those areas. Accumulated storm water in these areas can be drained and sent to the centralized sump pump. Compressor condensate water, fire system testing water, and truck rinse water are also directed to the centralized sump pump and treated if discharge is necessary.

The Discharger requested to include boiler blowdown in the permit renewal. Prior to this Order, all boiler blowdown was hauled off-site for contracted disposal. For this Order, boiler blowdown will be conveyed to the treatment system and will result in an additional 5,000 to 10,000 gallons of effluent per month. Boiler blowdown will be discharged only during periods of storm water discharge and will continue to be hauled off-site during dry periods.

The treatment system design flow is 288,000 GPD. During the term of Order R4-2010-0018 the Facility had 10 discharge events. The average daily flow reported for these events varied from 25,206 GPD to 114,993 GPD demonstrating that the system has sufficient capacity for boiler blowdown.

B. Discharge Points and Receiving Waters

1. Description of Discharge Points

The Facility intermittently discharges wastewater through Discharge Point 001 (Latitude 33.7645639°, Longitude -118.2419639°) into the Cerritos Channel, within the Long Beach Inner Harbor, both waters of the United States.

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

1. Effluent limitations contained in Order R4-2010-0018 for discharges from Discharge Point 001 at Monitoring Location EFF-001, and representative monitoring data from the term of the Order are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data for Final Discharge Locations

Parameter	Units	Effluent Limitation		Monitoring Data (March 2010 – September 2015)	
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge	Highest Daily Discharge
pH	Standard Units	6.5 - 8.5		8.9 - 6.4	
Temperature	^{o}F	86[1]		--	68.7
Turbidity	NTU	50	75	18	18
Settleable Solids	ml/L	0.1	0.3	<0.1	<0.1
Total Suspended Solids (TSS)	mg/L	50	60	10.4	10.4
	lbs/day[2]	120	144	NR	NR
Total Residual Chlorine	mg/L	--	0.1	0.08	0.08
	lbs/day[2]	--	0.24	NR	NR
Biochemical oxygen demand (5-day@20ºC) (BOD_5)	mg/L	20	30	9.36	9.36
	lbs/day[2]	48	72	NR	NR
Phenols, Total	mg/L	--	1.0	<25	<25
	lbs/day[2]	--	2.4	NR	NR
Sulfide, Total	mg/L	--	1.0	0.025	0.025
	lbs/day[2]	--	2.4	NR	NR
Tetrachloroethylene	µg/L	8.9	17.8	<0.25	<0.25
	lbs/day[2]	0.02	0.042	NR	NR
Vinyl Chloride	µg/L	36	--	<0.25	<0.25
	lbs/day[2]	0.09	--	NR	NR
Acute Toxicity	% Survival	[3]		0% survival[4]	
Copper, Total Recoverable	µg/L	2.9	5.8	9.5	9.5[5]
	lbs/day[2]	0.007	0.014	NR	NR
Mercury, Total Recoverable	µg/L	0.05	0.1	<0.0039	<0.0039
	lbs/day[2]	1.2E-04	2.4E-04	NR	NR
Nickel, Total Recoverable	µg/L	6.78	13.61	5.45	5.9
	lbs/day[2]	0.02	0.03	NR	NR
Thallium, Total Recoverable	µg/L	6.3	13	0.35	0.4
	lbs/day[2]	0.02	0.03	NR	NR
Zinc, Total Recoverable	µg/L	47	95	1180	1180
	lbs/day[2]	0.11	0.23	NR	NR
Cyanide, Total (as CN)	µg/L	0.5	1	<10	<10
	lbs/day[2]	0.001	0.002	NR	NR
Total Petroleum Hydrocarbons	µg/L	--	100	<50	<50
	lbs/day[2]	--	0.24	NR	NR
Bis(2-ethylhexyl) phthalate	µg/L	5.9	11.8	24	24
	lbs/day[2]	0.01	0.03	NR	NR

NR = Not reported.

1. The discharge of an effluent with a maximum temperature more than 20^{0}F above the natural receiving water temperature is prohibited.
2. Mass-based effluent limitations for pollutants are based on a maximum flow rate of 288,000 GPD.

3. The average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay test shall be at least 90%, and no single test shall produce less than 70% survival.
4. Minimum percent survival observed.
5. Average of duplicate samples on same date.

D. Compliance History

Data submitted to the Regional Water Board during term of Order R4-2010-0018 indicates that the Discharger has experienced violations of numeric permit limits. All violations of effluent limitations by the discharge from the Facility were reviewed and evaluated by the enforcement staff of the Regional Water Board.

Table F-3. Summary of Compliance History

Date	Monitoring Period	Violation Type	Pollutant	Reported Value	Limitation Value	Units
12/21/2010	4Q10	Daily Maximum	Zinc, Total Recoverable	1180	95	µg/L
12/31/2010	4Q10	Monthly Average	Zinc, Total Recoverable	1180	47	µg/mL
12/21/2010	4Q10	Daily Maximum	Zinc, Total Recoverable	0.71	0.23	lb/day
12/31/2010	4Q10	Monthly Average	Zinc, Total Recoverable	0.71	0.11	lb/day
12/21/2010	4Q10	Other	Acute toxicity	0	70	% Survival
3/21/2011	1Q11	Other	pH	6.4	6.5	SU
3/21/2011	1Q11	Daily Maximum	Zinc, Total Recoverable	748	95.1	µg/mL
3/31/2011	1Q11	Monthly Average	Zinc, Total Recoverable	748	47.4	µg/mL
3/21/2011	1Q11	Daily Maximum	Zinc, Total Recoverable	0.8	0.23	lb/day
3/31/2011	1Q11	Monthly Average	Zinc, Total Recoverable	0.49	0.11	lb/day
12/31/2011	4Q11	Monthly Average	Copper, Total Recoverable	3.4	2.9	µg/mL
12/2/2014	4Q14	Instantaneous Maximum	pH	8.9	8.5	SU
12/2/2014	4Q14	Daily Maximum	Copper, Total Recoverable	9.7	5.8	µg/mL
12/2/2014	4Q14	Monthly Average	Copper, Total Recoverable	9.7	2.9	µg/mL
12/2/2014	4Q14	Daily Maximum	Zinc, Total Recoverable	113	95	µg/mL
12/2/2014	4Q14	Monthly Average	Zinc, Total Recoverable	113	47	µg/mL
12/2/2014	4Q14	Instantaneous Maximum	pH	8.9	8.5	SU
12/2/2014	4Q14	Monthly Average	Zinc, Total Recoverable	113	95	µg/mL
12/2/2014	4Q14	Daily Maximum	Zinc, Total Recoverable	113	47	µg/mL

In addition to the violations in the table above, the Regional Water Board has identified instances of insufficient reporting limits, late reporting, and other missing parameters.

Historical effluent violations have been settled in enforcement actions. The Regional Water Board issued, during the term of Order R4-2010-0018, three Administrative Civil Liability Complaint Nos. R4-2011-0025-M, R4-2012-0106-M, and R4-2015-0113 dated on February 10, 2011, June 19, 2012, and June 26, 2015, respectively. In each instance, the Discharger waived its right to a hearing and accepted penalties by delivering to the Regional Water Board a signed Acceptance of Conditional Resolution and Waiver of Right to Hearing. The Regional Water Board executed the Acceptance and Waiver as a Stipulated Order assessing uncontested mandatory minimum penalties on April 22, 2011 for $24,000, September 4, 2012 for $15,000, and September 15, 2015 for $15,000. The Discharger complied with the Directives and payments for the Stipulated Orders were received on May 12, 2011, July 30, 2012, and October 15, 2015.

E. Planned Changes

The Discharger plans to discharge boiler blowdown during periods of storm water discharge only. Section II.A. of the Fact Sheet includes a discussion of the boiler blowdown waste stream, how the Discharger has historically disposed of it, and the plan for disposal during the term of this Order. The Discharger is in the process of testing alternative adsorption media to improve the efficiency of the existing treatment system. The Discharger is also in the process of building a storm water collection system along the property borderline where storm water is able to flow off the property.

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. The Cerritos Channel and Long Beach Inner Harbor are included as exceptions because they are saltwater

enclosed bays. The high salinity makes them unsuitable for municipal or domestic supply. Beneficial uses applicable to the Cerritos Channel are as follows:

Table F-4. Basin Plan Beneficial Uses

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

2. **Enclosed Bays and Estuaries Policy.** The *Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Enclosed Bays and Estuaries Policy)*, adopted by the State Water Resources Control Board (State Water Board) as Resolution No. 95-84 on November 16, 1995, states that:

   "It is the policy of the State Water Board that the discharge of municipal wastewaters and industrial process waters (exclusive of cooling water discharges) to enclosed bays and estuaries, other than the San Francisco Bay-Delta system, shall be phased out at the earliest practicable date. Exceptions to this provision may be granted by a Regional Water Board only when the Regional Water Board finds that the wastewater in question would consistently be treated and discharged in such a manner that it would enhance the quality of receiving waters above that which would occur in the absence of the discharge."

   The Facility discharges into Cerritos Channel of Long Beach Inner Harbor, within the enclosed bay. Though discharge from the Facility includes non-storm water sources, it is mixed with a large proportion of storm water and discharges occur only during storm events; therefore, the discharge is not considered to be industrial process wastewater. Nonetheless, this Order contains provisions necessary to protect all beneficial uses of the receiving water.

3. **Thermal Plan.** The State Water Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters 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. Requirements of this Order implement the Thermal Plan which includes a narrative criterion for temperature. That narrative has routinely been translated into a numeric effluent limit of 86^{o}F in NPDES permits in the Region. That limit is included in this permit. Additionally, a white paper was 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 white paper evaluated the optimum temperatures for steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel. A maximum effluent temperature limitation of 86°F was determined to be appropriate for protection of aquatic life, consistent with the effluent limits included historically, and is included in this Order.

4. **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.

5. **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.

6. **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.

7. **Antidegradation Policy.** Title 40 of the Code of Federal Regulations (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.

8. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and 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.

9. **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 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.

E. 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 (LA) 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 2012 CWA section 303(d) list and have been scheduled for TMDL development. On June 26, 2015, U.S. EPA approved California's 2012 CWA section 303(d) list of impaired waters and disapproved the omission of mercury in Topaz Lake that met federal listing requirements. On July 30, 2015, U.S. EPA issued its final decision adding Topaz Lake to the State's 303(d) list.

The Facility discharges into Cerritos Channel, which is part of the Long Beach Inner Harbor. The 2012 CWA section 303(d) List classifies the Los Angeles-Long Beach Inner Harbor as impaired. The pollutants/stressors of concern for the Long Beach Inner Harbor include: beach closures due to bacteria, benthic community effects, benzo(a)pyrene, chrysene, copper, dichlorodiphenyltrichloroethane (DDT), polychlorinated biphenyls (PCBs), sediment toxicity, and zinc. TMDLs have been developed to address bacteria and toxics in the Los Angeles/Long Beach Harbor areas.

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

1. **Harbor Toxics TMDL.** 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 Harbors Waters* (Harbor Toxics TMDL). The Harbor Toxics TMDL was approved by the State Water Board on February 7, 2012, the Office of Administrative Law (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.

   For the Cerritos Channel which is located within the Long Beach Inner Harbor, the Harbor Toxics TMDL included:

   a. Sediment interim concentration-based allocations (in mg/kg sediment) for copper, lead, zinc, 4,4'-DDT, PAHs [benzo(a)anthracene, benzo(a)pyrene, chrysene, and pyrene], and PCBs (Attachment A to Resolution No. 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 No. 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.

   The provisions included here include the WLAs and LAs established in the Harbor Toxics TMDL.

2. **Implementation of the Harbor Toxics TMDL.** In accordance with the TMDL and federal regulations this Order includes water quality-based effluent limitations (WQBELs) that are statistically-calculated based on salt water column final concentration-based WLAs (in µg/L, total 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 SIP. The TMDL includes an implementation plan and schedule that provides responsible parties to the TMDL up to 20 years from the effective date of the TMDL to comply with the final CTR TMDL-based WLAs, when warranted. The Regional Water Board sought authority from U.S. EPA under CWA section 303(c)(2) to provide compliance schedules consistent with the interim and final CTR TMDL-based WLAs and associated implementation schedule in certain NPDES permits pursuant to CWA section 301(b)(1)(C). Without CWA section 303(c)(2) approval, compliance schedules for CTR criteria are no longer authorized pursuant to the CTR and the State Water Board's Resolution 2008-0025 "Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits" (Compliance Schedule Policy). On November 8, 2012, the U.S. EPA issued an approval action pursuant to CWA section 303(c)(2) that authorized the Regional Water Board to include compliance schedules consistent with the interim and final CTR-based TMDL WLAs and the associated implementation schedule in the Harbors Toxics TMDL. The approval action authorizes the Regional Water Board to include compliance schedules, provided they are consistent with the CWA and U.S. EPA regulations (including 40 C.F.R. section 122.47), in NPDES permits issued to existing dischargers for more stringent WQBELs based on the WLAs in the TMDL. The approval action specifies that under certain conditions the Regional Water Board may authorize compliance schedules in NPDES permits for up to 20 years for non-municipal separate storm sewer system (MS4) storm water dischargers (General Construction, General Industrial, and individual industrial permittees) for copper, lead, zinc, DDT, dieldrin, total PCBs, chlordane, and pyrene, and other non-storm water dischargers for copper, lead, and zinc, consistent with the implementation plan and schedule in the TMDL. One condition for obtaining a compliance schedule is that the Discharger must demonstrate an inability to comply with more stringent effluent limitations resulting from the TMDL.

This Order also includes monitoring thresholds based on the TMDL's interim sediment allocations (in mg/kg sediment dry weight) for copper (142.3), lead (50.4), zinc (240.6), DDT (0.070), PAHs (4.58), and PCBs (0.060), and associated sediment 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 control and/or treatment technologies existing at the time of permit issuance, reissuance, or modification.

The water column CTR TMDL-based WLAs for copper, lead, zinc, 4,4'-DDT, and total PCBs were developed to ensure that the beneficial uses of the Long Beach Inner Harbor are preserved. However, no water column CTR TMDL-based WLAs were assigned for PAHs in the Greater Harbor Waters (which includes the Los Angeles/Long Beach Inner and Outer Harbors). Therefore, this Order sets performance goals for the PAHs (benzo(a)pyrene and chrysene) to ensure proper implementation of the TMDL's interim sediment allocations for this discharge.

During each reporting period, if effluent monitoring results exceed both a TSS effluent limitation and an effluent limitation or performance goal for copper, lead, zinc, DDT, PAHs (benzo(a)pyrene and chrysene), or PCBs, then the Discharger has not demonstrated attainment with the sediment allocations stipulated by the Harbor Toxics TMDL, Resolution No. R11-008, and implementation of the effluent sediment monitoring program is required for that priority pollutant. Sediment monitoring of the effluent shall begin during the first discharge event following the effluent exceedances. An effluent sediment monitoring result at or below the applicable sediment allocation established in Table 5 of this Order demonstrates attainment with the sediment allocation and

additional sediment monitoring of the effluent is not required. A sediment monitoring result that exceeds the sediment allocation requires additional sediment monitoring of the effluent during discharge, but not more frequently than once per year, until the 3-year average concentration for sediment monitoring results is at or below the applicable sediment allocation.

In an effort to accurately characterize the sediment discharged from the Facility, the Discharger will be required to collect enough effluent to perform sediment monitoring at least once during the permit term. This monitoring is required only if there is a discharge from the Facility and the effluent monitoring does not trigger sediment monitoring during the five year permit term.

3. **Performance Goals for Individual PAHs: Benzo(a)pyrene and Chrysene.** The performance goals for benzo(a)pyrene and chrysene are intended to 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. 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.

   CTR human health criteria are not promulgated for total PAHs. Therefore, performance goals are based on CTR human health criteria for the individual PAHs, benzo(a)pyrene (0.049 µg/L) and chrysene (0.049 µg/L). benzo(a)pyrene and chrysene are selected because the State's 2012 303(d) List classifies the Los Angeles/Long Beach Inner Harbor as impaired for these PAH compounds. See also the May 5, 2011, Final Staff Report for the Harbor Toxics TMDL (Staff Report).

4. **Harbor Toxics TMDL 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 of WLAs and load allocations is 20 years after the TMDL effective date for a Discharger who justifies the need for this amount of time to be included in a compliance plan. 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 the permit. If the Discharger is joining a collaborative effort that notification must include documentation of such. If developing a site-specific Monitoring Plan, the Discharger must notify the Regional Water Board 90 days after the effective date of the permit. The plan must be submitted 12 months after the effective date of the permit for public review and, subsequently, Executive Officer approval. If the Discharger intends to address the Plan requirements in combination with another facility or by joining a group already formed, the Plan must address monitoring requirements for all water bodies to which discharges from the Facility occur. Monitoring shall begin 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.

The provisions included in this Order implement requirements of WLAs established in TMDLs that are applicable to the discharge from this Facility.

5. **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.

   The Bacteria TMDL does not address discharges to the Cerritos Channel; however, the Cerritos Channel is connected to the Main Ship Channel, which is addressed in the TMDL. Effluent concentrations of Enterococcus bacteria exceeded the Basin Plan objective for a single sample maximum. This Order includes bacteria effluent limitations based on Basin Plan water quality objectives applicable to the Long Beach Inner Harbor. These water quality objectives are identical to the water quality objectives used to develop the Bacteria TMDL that is applicable to the Main Ship Channel (i.e., 30-day geometric means and single sample maximums for total coliform, fecal coliform, and *Enterococcus*). See the Fact Sheet section IV.C.6 for further discussion of bacteria limitations.

F. Other Plans, Policies 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 WQBELs 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 Board's plans and policies, U.S. EPA 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 BCT standard is established after considering the "cost reasonableness" of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.

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 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.

2. Applicable Technology-Based Effluent Limitations

Due to the lack of national ELGs for storm water runoff from chemical tank farms, this Order includes technology-based effluent limitations based on BPJ in accordance with 40 C.F.R. section 125.3. Numeric effluent limitations for biochemical oxygen demand (BOD), oil and grease, TSS, total phenols, settleable solids, total sulfides, total petroleum hydrocarbons (TPH), and turbidity are the same as the limitations included in Order R4-2010-0018. The numeric effluent limitations for these pollutants are consistent with technology-based limitations included in other Orders for similar facilities within the Region.

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

Parameter	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
BOD	mg/L	20	30
	lbs/day[1]	48	72
Oil and Grease	mg/L	10	15
	lbs/day[1]	24	36
TSS	mg/L	50	60
	lbs/day[1]	120	144
Phenols, Total	mg/L	--	1.0
	lbs/day[1]	--	2.4
Settleable Solids	ml/L	0.1	0.3
Sulfide, Total	mg/L	--	1.0
	lbs/day[1]	--	2.4
Turbidity	NTU	50	75
TPH[2]	µg/L	--	100
	lbs/day[1]	--	0.24

1. The mass emission rates are based on the Facility's maximum flow rate of 0.288 million gallons per day ([mgd] [288,000 GPD]) at Discharge Point 001, and are calculated as follows: Flow (mgd) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day.
2. TPH equals the sum of TPH gasoline (C4-C12) and TPH diesel (C13-C22), and TPH waste oil (C23+).

Order R4-2010-0018 required the Discharger to develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP is to outline site-specific management processes for minimizing storm water runoff contamination and for preventing contaminated storm water runoff from being discharged directly into the storm drain. At a minimum, management practices under the SWPPP should ensure that raw materials that could be discharged to surface water do not come into contact with storm water. This Order requires the Discharger to update and continue to implement the SWPPP.

Order R4-2010-0018 required the Discharger to develop and implement a Best Management Practice Plan (BMPP). The BMPP shall be consistent with the requirements of 40 C.F.R. part 125, Subpart K, and the general guidance contained in the *NPDES Best Management Practices Guidance Document*, U.S. EPA Report No. 600/9-79-045, December 1979 (revised June 1981). The purpose of the BMPP is to establish site-specific procedures that will ensure proper operation and maintenance of equipment and storage areas, to ensure that unauthorized non-storm water discharges (i.e., spills) do not occur at the Facility. This Order requires the Discharger to update the existing BMPP.

Order R4-2010-0018 required the Discharger to develop and implement a Spill Contingency Plan (SCP) or substitute an updated version of the Discharger's existing Spill Prevention Control and Countermeasure Plan (SPCCP). This Order requires the Discharger to update the existing SCP or SPCCP.

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, 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 Long Beach Inner Harbor, which includes the Cerritos Channel, 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 include human health criteria for consumption of water and organism, human health criteria for consumption of organism only, aquatic life criteria for saltwater, and aquatic life criteria for freshwater. Because the Cerritos Channel is not a source of drinking water, human health criteria for consumption of water and organism are not applicable. In accordance with 40 C.F.R. section 131.38(c)(3), saltwater life criteria apply at salinities of 10 part per thousand (ppt) and greater at locations where this occurs 95 percent or more of the time. Because Cerritos Channel is part of Long Beach Inner Harbor, which is mostly in a saltwater condition, aquatic life criteria for freshwater are not applicable. Therefore, CTR aquatic life criteria for saltwater or human health for consumption of organisms, whichever is more stringent, are used to prescribe the effluent limitations to protect the beneficial uses of the Long Beach Inner Harbor, a water of the United States.

The table below summarizes the applicable water quality criteria/objective for priority pollutants reported in detectable concentrations in the effluent or receiving water. These criteria were used to complete the RPA for this Order.

Table F-6. Applicable Water Quality Criteria

CTR No.	Constituent	Selected Criteria	CTR/NTR Water Quality Criteria		
			Aquatic Life/Saltwater		Human Health / Consumption of Organisms
			Acute	Chronic	
		µg/L	µg/L	µg/L	µg/L
1	Antimony	4,300	--	--	4,300
2	Arsenic	36	69	36	--
4	Cadmium	9.4	42	9.4	Narrative
5b	Chromium (VI)	50	1,100	50	Narrative
9	Nickel	8.3	75	8.3	4,600
10	Selenium	71	291	71	Narrative
11	Silver	2.2	2.2	--	--
--	TCDD Equivalents[1]	1.4×10^{-8}	--	--	1.4×10^{-8}
20	Bromoform	360	--	--	360
29	1,2-Dichloroethane	99	--	--	99
33	Ethylbenzene	29,000	--	--	29,000

1. The CTR establishes a numeric water quality objective for 2,3,7,8-TCDD of 1.4×10^{-8}µg/L for the protection of human health when aquatic organisms are consumed. The CTR criterion is used as a criterion for dioxin-TEQ because dioxin-TEQ represents a toxicity weighted concentration equivalent to 2,3,7,8-TCDD, thus translating the Basin Plan narrative bioaccumulation objective into a numeric criterion.

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 1.4×10^{-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.

3. Determining the Need for WQBELs

a. Reasonable Potential Analysis Methodology

In accordance with section 1.3 of the SIP, the Regional Water Board conducted 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. 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.

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 RPA includes the most recent effluent monitoring data available that was collected since the effective date of Order R4-2010-0018. During this period, the Discharger collected samples on 11 dates from December 21, 2010 through September 30, 2015. During the term of R4-2010-0018 receiving water monitoring data were available for two sample dates, March 13, 2014 and December 2, 2014.

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:

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

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

iii. 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.

b. **Reasonable Potential Analysis Results**

Based on the RPA, TCDD equivalents demonstrated reasonable potential to cause or contribute to an exceedance of the water quality objectives. The following table summarizes results from the RPA.

Table F-7. 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
1	Antimony	4,300	55	<2.5	No	MEC<C, B<C
2	Arsenic	36	22	<2.5	No	MEC<C, B<C
4	Cadmium	9.4	1.27	<1.3	No	MEC<C, B<C
5b	Chromium (VI)	50	25	<0.25	No	MEC<C, B<C
9	Nickel	8.3	5.9	<2.5	No	MEC<C, B<C
10	Selenium	71	8.6	<2.5	No	MEC<C, B<C
--	TCDD Equivalents	1.4×10^{-8}	5.077×10^{-7}	$5.74E \times 10^{-8}$	Yes	MEC>C
20	Bromoform	360	<0.25	1.2	No	MEC<C, B<C
29	1,2-Dichloroethane	99	6.1	<0.25	No	MEC<C, B<C
33	Ethylbenzene	29,000	0.35	<0.25	No	MEC<C, B<C

c. **WQBELs Resulting from TMDL Requirements**

The Regional Water Board developed WQBELs for copper, lead, zinc, DDT, and total PCBs that have available wasteload allocations under the *TMDL for Toxic Pollutants in Dominguez Channel and Greater Los Angeles and Long Beach Harbors Waters* (Harbor Toxics TMDL), which was approved by the U.S. EPA on March 23, 2012. The effluent limitations for these pollutants were established regardless of whether or not there is reasonable potential for the pollutants to be present in the discharge at levels that would cause or contribute to a violation of water quality standards. 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.

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. WQBELs for copper, lead, zinc, 4,4'-DDT, PCBs, and TCDD equivalents have been established for the discharge through Discharge Point 001. These WQBELs are based on monitoring results, and where appropriate, WLAs included in the Harbor Toxics TMDL. The procedure based on the steady-state model, available in section 1.4 of the SIP was used to calculate the WQBELs.

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. However, in accordance with the reopener provision in section VI.C.1.f, this Order may be reopened upon the submission by the Discharger of adequate information to establish appropriate dilution credits or a mixing zone, as determined by the Regional Water Board.

d. **WQBELs Calculation Example**

Using copper and TCDD equivalents as examples, the following demonstrates how WQBELs were established for this Order. 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 the Harbor Toxics TMDL and section 1.4 of the SIP.

Calculation of aquatic life AMEL and MDEL:

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

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

$ECA = C$

Since there was no reasonable potential for parameters with aquatic life criteria, the example describes WQBEL calculations based on a TMDL WLA for total recoverable copper.

For total recoverable copper the WLA from the Harbor Toxics TMDL is based on chronic aquatic life criteria. Thus, for total recoverable copper:

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

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). 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 historical effluent data set and whether it is an acute or chronic criterion/objective. The WLAs in the Harbor Toxics TMDL were based on chronic criteria, therefore, only the chronic multipliers are applicable. 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.

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

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.

For total recoverable copper, the following data were used to develop the chronic LTA using equations provided in section 1.4, Step 3 of the SIP (Table 1 of the SIP also provides this data up to three decimals):

No. of Samples	CV	ECA Multiplier$_{chronic}$
10	0.75	0.461

$LTA_{chronic} = 3.73\ \mu g/L \times 0.461 = 1.719\ \mu g/L$

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

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

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

$LTA_{copper} = LTA_{chronic} = 1.719\ \mu g/L$

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. 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.

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

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

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 copper, the following data were used to develop the AMEL and MDEL 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	$Multiplier_{MDEL99}$	$Multiplier_{AMEL95}$
4	0.75	3.767	1.697

Total recoverable copper

AMEL = 1.719 µg/L x 1.697 = 2.9 µg/L

MDEL= 1.719 µg/L x 3.767 = 6.5 µg/L

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 this example, the calculated effluent limitations for TCDD equivalents are shown.

For TCDD equivalents,

$AMEL_{human\ health} = 1.4 \times 10^{-8}$ 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. A default CV of 0.6 is used for TCDD equivalents.

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

For TCDD equivalents, the following data were used to develop the $MDEL_{human\ health}$:

No. of Samples Per Month	CV	$Multiplier_{MDEL\ 99}$	$Multiplier_{AMEL\ 95}$	Ratio
4	0.6	3.11	1.55	2.01

For TCDD equivalents:

$MDEL_{human\ health} = 1.4 \times 10^{-8}$ µg/L x 2.01 = 2.8×10^{-8} µg/L

Step 7: Select the lower of the AMEL and MDEL based on aquatic life and human health criteria as the WQBEL for the Order. Because none of the calculated effluent limitations for TCDD equivalents have applicable aquatic life criteria, the AMEL and MDEL based on human health criteria are applicable.

5. WQBELs Based on Basin Plan Objectives

Applicable Basin Plan objectives are summarized in the following table:

Table F-8. 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 0.2 units from natural conditions.
Bacteria	MPN/ 100 ml	Marine Waters Designated for Water Contact Recreation (REC-1) Geometric Mean Limits Total coliform density shall not exceed 1,000/100 ml. Fecal coliform density shall not exceed 200/100 ml. *Enterococcus* density shall not exceed 35/100 ml. Single Sample Limits Total coliform density shall not exceed 10,000/100 ml. Fecal coliform density shall not exceed 400/100 ml. *Enterococcus* density shall not exceed 104/100 ml. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1. In Waters Designated for Shellfish Harvesting (SHELL) The median total coliform concentration throughout the water column for any 30-day period shall not exceed 70/100 ml, nor shall more than ten percent of the samples collected during any 30-day period exceed 230/100 ml for a five-tube decimal dilution test or 330/100 ml when a three-tube decimal dilution test is used.
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%.

a. **pH** This Order includes effluent and receiving water limitations for pH to ensure compliance with Basin Plan Objectives for pH.

b. **Bacteria.** The Long Beach Inner Harbor is identified on the 2012 303(d) list as impaired for bacteria. Effluent concentrations of *Enterococcus* during the term of Order R4-2010-0018 exceeded the single sample maximum concentration for three out of six samples, with the highest *Enterococcus* result being 5,200 MPN/100 ml. To ensure that effluent bacteria does not contribute to water quality impairment, this Order includes effluent limitations for total coliform, fecal coliform, and *Enterococcus* based on the Basin Plan.

c. **Ammonia.** The discharge was evaluated for potential to exceed the Basin Plan objective for ammonia as specified in Resolution No. 2004-022, *Amendment to the Water Quality 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"*. The Basin Plan objectives for ammonia in Resolution No. 2004-022 are a 4-day average concentration of unionized ammonia of 0.035 mg/L, and a one-hour average concentration of unionized ammonia of 0.233 mg/L. Since the toxicity of ammonia to aquatic organisms increases with increasing pH and temperature, ammonia water quality objectives for a receiving water is a function of the pH, temperature, and salinity of that particular water body. According to the implementation procedures of Resolution No. 2004-022, the water quality objectives of a receiving water is calculated with the local pH, temperature, and salinity, expressed in total ammonia.

There are only two available sets of pH, temperature, and salinity data from the Discharger's Monitoring Location RSW-001 on March 13, 2014 and December 2, 2014 during the term of Order R4-2010-0018. The small number of data points would not provide a solid base for the statistical calculation of an ammonia water quality objective. Therefore, the two data points from the Facility were combined with the dataset from Long Beach Generating Station (LBGS) located at the east end of Cerritos Channel and approximately 1.25 miles from the Discharger's Discharge Point 001, which resulted in a data set with 33 salinity data points and 82 pH and temperature data points. The LBGS data were collected during May 2010 and May 2015 which covers about the same time period of Order R4-2010-0018. The ammonia water quality objectives calculated using this data are 4.364 mg/L as one-hour average and 1.182 mg/L as 4-day average. Based on the effluent data collected from December 21, 2010 through December 2, 2014, the maximum effluent concentration of ammonia was 0.68 mg/L as N. Because the effluent concentration was lower than the most stringent calculated objective, this Order does not establish effluent limitations at Discharge Point 001 for ammonia as nutrient. However, this Order requires the discharger to conduct receiving water pH, temperature, and salinity monitoring once semiannually in order to provide data necessary to calculate ammonia objectives and conduct future RPAs.

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 Discharger uses chlorine to disinfect influent water for bacteria control within the system (See Attachment C – Flow Schematic)**.** Chlorine was detected in the effluent at a concentration of 0.04 mg/L. Order R4-2010-0018 included an effluent limitation for total residual chlorine equal to 0.1 mg/L. The limit was 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 retains the effluent limitation for total residual chlorine in order to ensure effluent concentrations do not cause impairment of the receiving water.

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.

Order R4-2010-0018 included acute toxicity limitations and monitoring requirements in accordance with the Basin Plan, in which the acute toxicity objective for discharges dictates that the average survival in undiluted effluent for any three consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, with no single test having less than 70% survival. For the period of April 12, 2010 through April 26, 2014 effluent acute toxicity monitoring results were 100% survival for three of the four sample events. On December 21, 2010, acute toxicity result was 0% survival in 100 percent effluent. The WET tests for December 21, 2010 and December 2, 2014 were conducted using the Fathead minnows, which is a freshwater species. Order R4-2010-0018 specifies the Topsmelt, a marine species, for discharges to brackish or salt waters. Hence, the two tests using Fathead minnows were not conducted as per the specified protocol.

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. For this discharge, chronic toxicity requirements will be protective of acute toxicity as well. Because the types of fuels stored at the Facility include a multitude of chemicals, which individually may not be present in toxic concentrations, but could exhibit aggregate toxic effects as a whole, this Order does not require acute toxicity monitoring, but requires chronic toxicity monitoring for the effluent at Discharge Point 001.

The WET testing requirements in this Order are based on U.S. EPA's 2010 Test of Significant Toxicity (TST) 2-concentration hypothesis testing approach in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) as an improved hypothesis-testing tool to evaluate data from U.S. EPA'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 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 U.S. EPA's toxicity test methods and is implemented in federal permits issued by U.S. EPA Region 9.

The TST's null hypothesis for chronic toxicity is:

H0: Mean response (In-stream Waste Concentration (IWC) in % effluent) ≤ 0.75 mean response (Control).

Results obtained from a single-concentration 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 IWC for Discharge Point 001 is 100/(0+1) = 100 percent effluent.

The Regional Water Board has determined that chronic toxicity demonstrates reasonable potential based on Step 7 of the RPA procedure described in the SIP which states that other information may be considered to determine whether a WQBEL is needed. Such information includes, among other aspects, the facility type, the discharge type, and the potential toxic impacts of the discharge. The Facility has the potential to discharge a number of pollutants (e.g., chlorine, TPH, xylenes). 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.

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 no more than 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 1 day in a calendar month period. During such calendar months, exactly three independent toxicity tests are required when one toxicity test results in "Fail".

7. Final WQBELs

Based on the RPA, pollutants that demonstrate reasonable potential to cause or contribute to an exceedance of a water quality standard are TCDD equivalents. The Harbor Toxics TMDL establishes WLAs for copper, lead, zinc, 4,4'-DDT, and Total PCBs which are applicable to the discharge. Therefore, effluent limitations for TCDD equivalents, copper, lead, zinc, 4,4'-DDT, and Total PCBs are included in this Order. Refer to Attachment J for a summary of the RPA and associated effluent limitation calculations, and Attachment K for a summary of calculation of effluent limitations based on the WLA requirements in the Harbor Toxics TMDL.

This Order discontinues effluent limitations for vinyl chloride, mercury, nickel, thallium, cyanide, and bis(2-ethylhexyl)phthalate because the reasonable potential to exceed water quality criteria has not been established. The residual chlorine effluent limitation in Order R4-2010-0018 is retained because chlorine is used constantly in the wastewater treatment system of the Facility to disinfect the effluent. The residual chlorine effluent limitation is based on the Basin Plan objective. The tetrachloroethylene effluent limitation is also retained because a 11.5 µg/L concentration of the compound was reported in the water quality analysis for the Facility's boiler blowdown water, which is discharged with the stormwater from the Facility.

Table F-9. Summary of WQBELs at Discharge Point 001

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	standard units	--	--	6.5	8.5
Residual Chlorine	mg/L	--	0.1	--	--
	lbs/day[1]	--	0.24	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Chronic Toxicity[2]	Pass or Fail, % Effect	Pass[3]	Pass or % Effect <50	--	--
Temperature	ºF	--	--	--	86[4]
Copper, Total Recoverable	µg/L	2.9	6.5	--	--
	lbs/day[1]	0.0070	0.016	--	--
Lead, Total Recoverable	µg/L	7	14	--	--
	lbs/day[1]	0.017	0.034	--	--
Zinc, Total Recoverable	µg/L	49	150	--	--
	lbs/day[1]	0.12	0.37	--	--
4,4-DDT	µg/L	0.00059	0.0012	--	--
	lbs/day[1]	1.4×10^{-6}	2.9×10^{-6}	--	--
Total PCBs[5]	µg/L	0.00017	0.00034	--	--
	lbs/day[1]	4.1×10^{-7}	8.2×10^{-7}	--	--
Tetrachloroethylene	µg/L	8.9	17.8	--	--
	lbs/day[1]	0.02	0.042	--	--
TCDD Equivalents[6]	µg/L	1.40×10^{-8}	2.80×10^{-8}	--	--
	lbs/day[1]	3.40×10^{-11}	6.70×10^{-11}	--	--

1 Mass loading limitations are based on a maximum flow of 0.288 MGD and are calculated as follows: Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day.

2 The MMEL shall be reported as "Pass" or "Fail". The MDEL shall be reported as "Pass" or "Fail". The MMEL for chronic toxicity shall only apply when there is a discharge more than 1 day in a calendar month period. During such calendar months, up to three independent toxicity tests are required when one toxicity test results in a "Fail".

3 This is an MMEL.

4 The discharge of an effluent with a maximum temperature more than 20ºF above the natural receiving water temperature is prohibited.

5 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

6 TCDD equivalents shall be calculated using the following formula, where the ML's and the 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 ML's to zero. U.S. EPA method 1613 may be used to analyze dioxin and furan congeners.

Dioxin-TEQ (TCDD equivalents) = Σ(Cx x TEFx)
where: Cx = concentration of dioxin or furan congener x
TEFx= 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

Congeners	Minimum Levels (pg/L)	Toxicity Equivalence Factor (TEF)
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

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.

Effluent limitations for mercury, nickel, thallium, cyanide, bis(2-ethylhexyl) phthalate, and vinyl chloride are removed in this Order because there is no reasonable potential for these chemicals to exceed water quality standards. The data utilized to complete the reasonable potential analysis is new information which provides the basis for no longer including a limitation for these pollutants. The new information (data) that is available which was not available when Order R4-2010-0018 was issued, is one of the exceptions to the anti-backsliding provisions included in the Clean Water Act section 402(o)(2). Hence, the deletion of these limits is in compliance with that exception to the anti-backsliding provisions.

This Order includes revised effluent limitations for copper (MDEL) and zinc (AMEL and MDEL) that are less stringent than those in Order R4-2010-0018. The new limitations were developed to be consistent with the WLA provided in the Harbor Toxics TMDL. As such, the relaxation 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.

2. Antidegradation Policies

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 and the SIP implement, and incorporate 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.

This Order does not provide for an increase in the permitted design flow and the final limitations in this Order 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 provision of section 131.12 and State Water Board Resolution 68-16.

As discussed in section IV.D.1 of this Fact Sheet, this Order contains effluent limitations for copper (MDEL) and zinc (AMEL and MDEL) that are less stringent than those in Order R4-2010-0018. These limitations are based on TMDL WLAs that were adopted into the Basin Plan as a means to achieve water quality objectives within the receiving water. The new effluent limitations are consistent with the TMDL and the cumulative effect of all revised effluent limitations is that the receiving water will attain water quality objectives. As such the relaxed effluent limitations are consistent with Resolution No. 68-16.

3. Mass-based Effluent Limitations

Generally, mass-based effluent limitations ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limitations. 40 C.F.R. 122.45(f)(1) requires that all pollutants limited in permits have limitations, standards or prohibitions be expressed in terms of mass units except under the following conditions: (1) for pH, temperature, radiation or other pollutants that cannot appropriately be expressed by mass limitations; (2) when applicable standards or limitations are expressed in terms of other units of measure; or (3) if in establishing technology-based permit limitation on a case-by-case basis limitation based on mass are infeasible because the mass or pollutant cannot be related to a measure of production.

Mass-based effluent limitations are established using the following formula:

Mass (lbs/day) = flow rate (MGD) x 8.34 x effluent limitation (mg/L)

where: Mass = mass limitation for a pollutant (lbs/day)

Effluent limitation = concentration limit for a pollutant (mg/L)

Flow rate = discharge flow rate (MGD)

According to the Report of Waste Discharge submitted by the Discharger, the maximum flow is 0.288 MGD. As such, the mass-based effluent limitations applicable to Discharge Point 001 are based on that flow.

4. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD, TSS, oil and grease, total phenols, settleable solids, total sulfide, turbidity, and TPH. Restrictions on these pollutants are discussed in section IV.B of the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

WQBELs 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 U.S. EPA 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 U.S. EPA prior to May 30,

2000. Any water quality objectives and beneficial uses submitted to U.S. EPA prior to May 30, 2000, but not approved by U.S. EPA 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 were approved by U.S. EPA 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.

5. Summary of Final Effluent Limitations

a. The limitations and their basis, except bacteria limitations, established for effluent through Discharge Point 001 are summarized in Table F-10.

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

Parameter	Units	Effluent Limitations		Performance Goals	Basis[1]
		Average Monthly	Maximum Daily		
Conventional Pollutants					
BOD	mg/L	20	30	--	E, BPJ
	lbs/day[2]	48	72	--	
Oil and Grease	mg/L	10	15	--	E, BPJ
	lbs/day[2]	24	36	--	
pH	standard units	≥ 6.5 & ≤ 8.5 (Instantaneous)		--	E, BP
TSS	mg/L	50	60	--	E, BPJ
	lbs/day[2]	120	144	--	
Non-Conventional Pollutants					
Chronic Toxicity[3]	Pass or Fail, % Effect	Pass[4]	Pass or % Effect < 50	--	BP
Phenols, Total	mg/L	--	1.0	--	E, BPJ
	lbs/day[2]	--	2.4	--	
Residual Chlorine	mg/L	--	0.1	--	E, BP
	lbs/day[2]	--	0.24	--	
Settleable Solids	ml/L	0.1	0.3	--	E, BPJ
Sulfide, Total	mg/L	--	1.0	--	E, BPJ
	lbs/day[2]	--	2.4	--	
Temperature	ºF	≤ 86[5] (Instantaneous)		--	E, TP
TPH	µg/L	--	100	--	E, BPJ
	lbs/day[2]	--	0.24	--	
Turbidity	NTU	50	75	--	E, BPJ
Priority Pollutants					
Copper, Total Recoverable	µg/L	2.9	6.5	--	TMDL
	lbs/day[2]	0.0070	0.016	--	
Lead, Total Recoverable	µg/L	7.0	14	--	TMDL
	lbs/day[2]	0.017	0.034	--	
Zinc, Total Recoverable	µg/L	49	150	--	TMDL
	lbs/day[2]	0.12	0.37	--	
4,4-DDT	µg/L	0.00059	0.0012	--	TMDL

Parameter	Units	Effluent Limitations		Performance Goals	Basis[1]
		Average Monthly	Maximum Daily		
	lbs/day[2]	1.4×10^{-6}	2.9×10^{-6}	--	
Total PCBs[6]	µg/L	0.00017	0.00034	--	TMDL
	lbs/day[2]	4.1×10^{-7}	8.2×10^{-7}	--	
Tetrachloroethylene	µg/L	8.9	17.8	--	E, CTR, SIP
	lbs/day[2]	0.02	0.042	--	
Benzo(a)pyrene[7]	µg/L	--	--	0.049	TMDL
Chrysene[7]	µg/L	--	--	0.049	TMDL
TCDD Equivalents[8]	µg/L	1.40×10^{-8}	2.80×10^{-8}	--	E, CTR, SIP
	lbs/day[2]	3.40×10^{-11}	6.70×10^{-11}	--	

1 E = Existing Order; BPJ = Best Professional Judgment; BP = Basin Plan; TMDL = Total Maximum Daily Load (Harbor Toxics); CTR = California Toxic Rule; SIP = State Implementation Policy; TP = Thermal Plan.

2 Mass loading limitations are based on a maximum flow of 0.288 MGD and are calculated as follows: Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day.

3 The MMEL shall be reported as "Pass" or "Fail". The MDEL shall be reported as "Pass" or "Fail". The MMEL for chronic toxicity shall only apply when there is a discharge more than 1 day in a calendar month period. During such calendar months, up to three independent toxicity tests are required when one toxicity test results in a "Fail".

4 This is an MMEL.

5 The discharge of an effluent with a maximum temperature more than 20ºF above the natural receiving water temperature is prohibited.

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 are not promulgated for total PAHs. Therefore, performance goals are based on CTR human health criteria for the individual PAHs, benzo(a)pyrene and chrysene. Benzo(a)pyrene and chrysene are selected because the State's 2012 303(d) List classifies the Los Angeles/Long Beach Inner Harbor as impaired for these PAH compounds. These performance goals are not enforceable effluent limitations. Rather, they act as triggers to determine when sediment monitoring is required for these compounds.

8 TCDD equivalents shall be calculated using the following formula, where the ML's and the 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 ML's to zero. U.S. EPA method 1613 may be used to analyze dioxin and furan congeners.

Dioxin-TEQ (TCDD equivalents) = Σ(Cx x TEFx)
where: Cx = concentration of dioxin or furan congener x
TEFx= 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

Congeners	Minimum Levels (pg/L)	Toxicity Equivalence Factor (TEF)
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

b. **Bacteria Limitations Requirements**. Bacteria limitations are established for both geometric means and single samples. The Basin Plan includes an implementation provision for geometric means: "*The geometric mean values should be calculated based on a statistically sufficient number of samples (generally not less than 5 samples equally spaced over a 30-day period).*"

i. Rolling 30-day Geometric Mean Limits

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

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

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

ii. Single Sample Maximum (SSM)

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

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

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

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

iii. The median total coliform concentration throughout the water column for any 30-day period shall not exceed 70/100 ml, nor shall more than 10 percent of the samples collected during any 30-day period exceed 230/100 ml for a five-tube decimal dilution test or 330/100 ml when a three-tube decimal dilution test is used.

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications – Not Applicable

G. Recycling Specifications – Not Applicable

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 reasonable

potential or a U.S. EPA-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 section 123 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.

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 and Final Concentration-based Allocations in the Harbor Toxics TMDL for Sediment Monitoring of Effluent.** This Order implements the Harbor Toxics TMDL's interim sediment allocations (Long Beach Inner Harbor) for copper, lead, zinc, DDT, PAHs, and PCBs as monitoring thresholds. Compliance with these thresholds shall be demonstrated in 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 Discharger is required to collect a sufficient sample at least once during the permit term to analyze the sediment in the effluent volume 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 or controls existing at the time of permit issuance, reissuance, or modification.

c. **Harbor Toxics TMDL Water Column, Sediment, and Fish Tissue Monitoring for the Great 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 the Long Beach Inner Harbor. The Discharger may join a collaboration group or develop a site-specific plan to comply with this requirement.

3. Best Management Practices and Pollution Prevention

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

i. **Storm Water Pollution Prevention Plan (SWPPP).** This Order requires the Discharger to update, as necessary, and continue to implement a SWPPP. The SWPPP will outline site-specific management processes for minimizing storm water runoff contamination and for preventing contaminated storm water runoff from being discharged directly into the receiving water. At a minimum, the management practices should ensure that raw materials and chemicals do not come into contact with storm water. SWPPP requirements are included as Attachment G, based on 40 C.F.R. section 122.44(k).

ii. **Best Management Practices Plan (BMPP).** This Order requires the Discharger to develop and 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 BMPP shall incorporate the requirements contained in Attachment G. Attachment 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.

iii. **Spill Contingency Plan (SCP).** This Order requires the Discharger to develop and 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. A Spill Prevention, Control, and Countermeasure (SPCC) Plan may satisfy this requirement.

4. Construction, Operation, and Maintenance Specifications

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

5. Special Provisions for Municipal Facilities (POTW's Only) – Not Applicable

6. Other Special Provisions

7. Compliance Schedules – Not Applicable

8. Pollutant Minimization Plan.

Order R4-2010-0018 required the Discharger to conduct a PMP to address mercury effluent limitations. The discharger has implemented a SWPPP that addresses the source reduction requirements of the PMP. As a result, the requirement for a PMP is removed from this Order.

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 of this Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this Facility.

A. Influent Monitoring – Not Applicable

B. Effluent Monitoring

1. Discharge Point 001 (Monitoring Location EFF-001

a. Monitoring for pollutants expected to be present in the discharge will be required as established in the MRP (Attachment E). To demonstrate compliance with established effluent limitations, the Order includes monitoring requirements for parameters for which effluent limitations have been established.

b. This Order reduces the monitoring frequency from Order R4-2010-0018 from once per discharge event to once per year for the following parameters: total phenols, mercury, thallium, cyanide, bis(2-ethylhexyl) phthalate, benzene, carbon tetrachloride,1,1-dichloroethylene, methylene chloride (dichloromethane), 1,3-dichloropropylene, 1,1,2,2-tetrachloroethylene, tetrachloroethylene, toluene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethylene, vinyl chloride, naphthalene, and methyl *tert*-butyl ether. Effluent concentrations of these parameters were not detected in any of the samples collected between March 2011 and December 2013, indicating the substance is either not present in the raw water or is being consistently treated to levels that will not contribute to water quality impairment.

c. To demonstrate compliance with established effluent limitations, the monitoring frequency for lead is established as once per discharge event, with a maximum required frequency of once per week.

d. All other monitoring requirements are retained from Order R4-2010-0018.

e. The SIP states that the Regional Water Board will require periodic monitoring for pollutants for which criteria or objectives apply and for which no effluent limitations have been established. This Order requires the Discharger to conduct annual monitoring for the remaining CTR priority pollutants. The Regional Water Board will use the additional data to conduct an RPA and determine if additional WQBELs are required. The Regional Water Board may reopen the permit to incorporate additional effluent limitations and requirements, if necessary.

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. For this permit, chronic toxicity in the discharge is limited and evaluated at Discharge Point 001 using U.S. EPA's 2010 TST hypothesis testing approach. The chronic toxicity effluent limitations are as stringent as necessary to protect the receiving water beneficial uses from chronic toxicity.

Section IV.C.7 of the Fact Sheet provides additional discussion of the chronic toxicity requirements.

D. Receiving Water Monitoring

1. Surface Water and Benthic Monitoring

This Order includes receiving water limitations and therefore, monitoring requirements are included in the MRP to determine compliance with the receiving water limitations established in the Limitations and Discharge Requirements. The Facility is also required to perform general observations of the receiving water when discharges occur and report the observations in the monitoring report. Attention shall be given to the presence or absence of: floating or suspended matter, discoloration, aquatic life, visible film, sheen or coating, and fungi, slime, or objectionable growths.

According to the SIP, the Discharger is required to monitor the upstream receiving water for the CTR priority pollutants, to determine reasonable potential. Accordingly, the Regional Water Board is requiring that the Discharger conduct upstream receiving water monitoring of the CTR priority pollutants at Monitoring Location RSW-001. The Discharger must analyze temperature, pH, ammonia, and salinity of the upstream receiving water at the same time the samples are collected for priority pollutant analysis. The requirement for monitoring for hardness in the receiving water has been discontinued as the applicable saltwater water quality criteria for metals are not hardness dependent.

2. Groundwater – Not Applicable

E. Other Monitoring Requirements

1. Storm Water Monitoring Requirements

Because the discharge is comprised primarily of storm water runoff that occurs only during heavy rainfall events, the Discharger is required to measure and record the rainfall each day of the month. The Discharger is also required to conduct visual observations of all storm water discharges to evaluate the presence of floating and suspended materials, oil and grease, discoloration, turbidity, and odor.

2. Sediment Monitoring of the Effluent

The Harbor Toxics TMDL requires attainment with the TMDL's interim sediment allocations. This Order implements this requirement in a framework of effluent limits, effluent performance goals, sediment monitoring thresholds, and effluent monitoring requirements. Attainment with the interim sediment allocations shall be demonstrated, as specified in Footnote 2 to Table 4, of this Order. These requirements will ensure that discharges from the Facility do not contribute significantly to contaminant sediment concentrations in the Long Beach Inner Harbor.

3. Regional Monitoring

Monitoring is required to determine compliance with the assigned wasteload and load allocations specified in the Harbor Toxics TMDL. The Discharger may join a group of stakeholders in the development of Regional Monitoring program(s) to address pollutants as specified in the Harbor Toxics TMDL.

If the Discharger intends addressing the Plan requirements in combination with another facility or by joining a group already formed, the Plan must address monitoring requirements for all water bodies to which discharges occur.

VIII. PUBLIC PARTICIPATION

The Regional Water Board has considered the issuance of WDRs that will serve as an NPDES permit for the Vopak Terminal Long Beach Inc. 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 through a local newspaper, electronic mail to the stakeholder list, and posting on the Regional Water Board website.

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 Gensen.Kai@waterboards.ca.gov.

To be fully responded to by staff and considered by the Regional Water Board, the written comments were due at the Regional Water Board office by 5:00 p.m. on March 21, 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: **April 14, 2016**
Time: **9 AM**
Location: **City of Simi Valley (Council Chambers)**
2929 Tapo Canyon Road
Simi Valley, California

Interested persons were invited to attend. At the public hearing, the Regional Water Board heard testimony pertinent to the discharge, WDRs, and permit. For accuracy of the record, important testimony was requested in writing.

D. Reconsideration of Waste Discharge Requirements

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

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

For instructions on how to file a petition for review, see
http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml

E. Information and Copying

The 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 213-576-6600.

F. Register of Interested Persons

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

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Gensen Kai at **(213) 576-6651**.

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.

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

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.d 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.

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 (U.S. EPA) Form R, and oil and hazardous substances in excess of reportable quantities (see 40 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.

2. **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.

a. **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 VII 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.A 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.

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 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). 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:

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 SWPPP's 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 VII.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:

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.

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.

ATTACHMENT H – STATE WATER BOARD MINIMUM LEVELS

The Minimum Levels (ML's) in this appendix are for use in reporting and compliance determination purposes in accordance with section 2.4 of the State Implementation Policy. These ML's were derived from data for priority pollutants provided by State certified analytical laboratories in 1997 and 1998. These ML's shall be used until new values are adopted by the State Water Board and become effective. The following tables (Tables 2a - 2d) present ML's in microgram per liter (µg/L) 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.

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	

Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
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		
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.

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
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.

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

CTR Number	Parameter	CAS Number	Suggested Analytical Methods
43	Trichloroethylene	79016	[1]
44	Vinyl Chloride	75014	[1]
45	2-Chlorophenol	95578	[1]
46	2,4-Dichlorophenol	120832	[1]
47	2,4-Dimethylphenol	115679	[1]
48	2-Methyl-4,6-Dinitrophenol	534521	[1]
49	2,4-Dinitrophenol	51285	[1]
50	2-Nitrophenol	88755	[1]
51	4-Nitrophenol	110027	[1]
52	3-Methyl-4-Chlorophenol	59507	[1]
53	Pentachlorophenol	87865	[1]
54	Phenol	118952	[1]
55	2,4,6-Trichlorophenol	88062	[1]
56	Acenaphthene	83329	[1]
57	Acenaphthylene	208968	[1]
58	Anthracene	120127	[1]
59	Benzidine	92875	[1]
60	Benzo(a)Anthracene	56553	[1]
61	Benzo(a)Pyrene	50328	[1]
62	Benzo(b)Fluoranthene	205992	[1]
63	Benzo(ghi)Perylene	191242	[1]
64	Benzo(k)Fluoranthene	207089	[1]
65	Bis(2-Chloroethoxy)Methane	111911	[1]
66	Bis(2-Chloroethyl)Ether	111444	[1]
67	Bis(2-Chloroisopropyl)Ether	118601	[1]
68	Bis(2-Ethylhexyl)Phthalate	117817	[1]
69	4-Bromophenyl Phenyl Ether	111553	[1]
70	Butylbenzyl Phthalate	85687	[1]
71	2-Chloronaphthalene	91587	[1]
72	4-Chlorophenyl Phenyl Ether	7005723	[1]
73	Chrysene	218019	[1]
74	Dibenzo(a,h)Anthracene	53703	[1]
75	1,2-Dichlorobenzene	95501	[1]
76	1,3-Dichlorobenzene	541731	[1]
77	1,4-Dichlorobenzene	116467	[1]
78	3,3'-Dichlorobenzidine	91941	[1]
79	Diethyl Phthalate	84662	[1]
80	Dimethyl Phthalate	131113	[1]
81	Di-n-Butyl Phthalate	84742	[1]
82	2,4-Dinitrotoluene	121142	[1]
83	2,6-Dinitrotoluene	606202	[1]
84	Di-n-Octyl Phthalate	117840	[1]
85	1,2-Diphenylhydrazine	122667	[1]
86	Fluoranthene	206440	[1]
87	Fluorene	86737	[1]
88	Hexachlorobenzene	118741	[1]
89	Hexachlorobutadiene	87863	[1]

CTR Number	Parameter	CAS Number	Suggested Analytical Methods
90	Hexachlorocyclopentadiene	77474	[1]
91	Hexachloroethane	67721	[1]
92	Indeno(1,2,3-cd)Pyrene	193395	[1]
93	Isophorone	78591	[1]
94	Naphthalene	91203	[1]
95	Nitrobenzene	98953	[1]
96	N-Nitrosodimethylamine	62759	[1]
97	N-Nitrosodi-n-Propylamine	621647	[1]
98	N-Nitrosodiphenylamine	86306	[1]
99	Phenanthrene	85018	[1]
110	Pyrene	129000	[1]
111	1,2,4-Trichlorobenzene	120821	[1]
112	Aldrin	309002	[1]
113	alpha-BHC	319846	[1]
114	beta-BHC	319857	[1]
115	gamma-BHC	58899	[1]
116	delta-BHC	319868	[1]
117	Chlordane	57749	[1]
118	4,4'-DDT	50293	[1]
119	4,4'-DDE	72559	[1]
111	4,4'-DDD	72548	[1]
111	Dieldrin	60571	[1]
112	alpha-Endosulfan	959988	[1]
113	beta-Endosulfan	33213659	[1]
114	Endosulfan Sulfate	1131178	[1]
115	Endrin	72208	[1]
116	Endrin Aldehyde	7421934	[1]
117	Heptachlor	76448	[1]
118	Heptachlor Epoxide	1124573	[1]
119	PCB-1116	12674112	[1]
120	PCB-1221	11114282	[1]
121	PCB-1232	11141165	[1]
122	PCB-1242	53469219	[1]
123	PCB-1248	12672296	[1]
124	PCB-1254	11197691	[1]
125	PCB-1260	11196825	[1]
126	Toxaphene	8001352	[1]

[1] Pollutants shall be analyzed using the methods described in 40 C.F.R part 136.

ATTACHMENT J – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Vopak Terminal Long Beach, Discharge Point No. 001

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Lowest C or WLAs	MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?
					Freshwater		Saltwater		Human Health for consumption of:					
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot	Water & organisms	Organisms only				
1	Antimony	ug/L		55						4300.00	4300.00	No	No	Y
2	Arsenic	ug/L		22			69.00	36.00			36.00	No	No	Y
3	Beryllium	ug/L		No Criteria						Narrative	No Criteria	No Criteria	No Criteria	Y
4	Cadmium	ug/L		1.27			42.25	9.36		Narrative	9.36	No	No	Y
5a	Chromium (III)			No Criteria						Narrative	No Criteria	No Criteria	No Criteria	N
5b	Chromium (VI)	ug/L		25			1100.00	50.00		Narrative	50.00	No	No	Y
6	Copper	ug/L	0.746	9.7				3.73			3.73	Yes	Yes	Y
7	Lead	ug/L	0.6	5				8.52		Narrative	8.52	No	No	Y
8	Mercury	ug/L		0.00390			Reserved	Reserved		0.05100	0.05100	No	No	Y
9	Nickel	ug/L		5.9			74.75	8.28		4600.00	8.28	No	No	Y
10	Selenium	ug/L		8.6			290.58	71.14		Narrative	71.14	No	No	Y
11	Silver	ug/L		0.1			2.24				2.24	No	No	Y
12	Thallium	ug/L		0.1						6.30	6.30	No	No	Y
13	Zinc	ug/L	1.908	1180				85.62			85.6	Yes	Yes	Y
14	Cyanide	ug/L					1.00	1.00		220000.0	1.00			N
15	Asbestos	MFL		No Criteria							No Criteria	No Criteria	No Criteria	Y
16	2,3,7,8 TCDD	ug/L								1.4E-08	1.40E-08			Y
	TCDD Equivalents	ug/L	0	5.077E-07						1.4E-08	1.40E-08	Yes	Yes	Y
17	Acrolein	ug/L		2.5						780.0	780	No	No	Y
18	Acrylonitrile	ug/L								0.66	0.660			Y
19	Benzene	ug/L		0.25						71	71.0	No	No	Y
20	Bromoform	ug/L		0.25						360	360.0	No	No	Y
21	Carbon Tetrachloride	ug/L		0.25						4.4	4.40	No	No	Y
22	Chlorobenzene	ug/L		0.25						21000	21000	No	No	Y
23	Chlorodibromomethane	ug/L		0.25						34	34.00	No	No	Y
24	Chloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
25	2-Chloroethylvinyl ether	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
26	Chloroform	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
27	Dichlorobromomethane	ug/L		0.25						46	46.00	No	No	Y
28	1,1-Dichloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
29	1,2-Dichloroethane	ug/L		6.1						99	99.00	No	No	Y
30	1,1-Dichloroethylene	ug/L		0.25						3.2	3.200	No	No	Y
31	1,2-Dichloropropane	ug/L		0.25						39	39.00	No	No	Y
32	1,3-Dichloropropylene	ug/L		0.25						1700	1700	No	No	Y
33	Ethylbenzene	ug/L		0.35						29000	29000	No	No	Y
34	Methyl Bromide	ug/L		0.25						4000	4000	No	No	Y
35	Methyl Chloride	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
36	Methylene Chloride	ug/L		1.1						1600	1600.0	No	No	Y
37	1,1,2,2-Tetrachloroethane	ug/L		0.25						11	11.00	No	No	Y
38	Tetrachloroethylene	ug/L		0.25						8.85	8.9	No	No	Y
39	Toluene	ug/L		0.25						200000	200000	No	No	Y
40	1,2-Trans-Dichloroethylene	ug/L		0.25						140000	140000	No	No	Y
41	1,1,1-Trichloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
42	1,1,2-Trichloroethane	ug/L		0.25						42	42.0	No	No	Y
43	Trichloroethylene	ug/L		0.25						81	81.0	No	No	Y
44	Vinyl Chloride	ug/L		0.25						525	525	No	No	Y
45	2-Chlorophenol	ug/L		1						400	400	No	No	Y
46	2,4-Dichlorophenol	ug/L		1						790	790	No	No	Y
47	2,4-Dimethylphenol	ug/L		1						2300	2300	No	No	Y
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	ug/L		0.5						765	765.0	No	No	Y
49	2,4-Dinitrophenol	ug/L		2.5						14000	14000	No	No	Y
50	2-Nitrophenol	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
51	4-Nitrophenol	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
53	Pentachlorophenol	ug/L		0.5			13.00	7.90		8.2	7.90	No	No	Y
54	Phenol	ug/L		1						4600000	4600000	No	No	Y
55	2,4,6-Trichlorophenol	ug/L		1						6.5	6.5	No	No	Y
56	Acenaphthene	ug/L		0.5						2700	2700	No	No	Y
57	Acenaphthylene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
58	Anthracene	ug/L		2.5						110000	110000	No	No	Y
59	Benzidine	ug/L								0.00054	0.00054			Y
60	Benzo(a)Anthracene	ug/L								0.049	0.049			Y
61	Benzo(a)Pyrene	ug/L	0.6							0.04900	0.049			Y
62	Benzo(b)Fluoranthene	ug/L								0.049	0.0490			Y
63	Benzo(ghi)Perylene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
64	Benzo(k)Fluoranthene	ug/L								0.049	0.0490			Y
65	Bis(2-Chloroethoxy)Methane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y

CTR#	Parameters	REASONABLE POTENTIAL ANALYSIS (RPA)								HUMAN HEALTH CALCULATIONS		
										Organisms only		
		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)	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
1	Antimony	Y	2.5		N	No detected value of B, Step 7		No	MEC<C & B is ND			
2	Arsenic	Y	2.5		N	No detected value of B, Step 7		No	MEC<C & B is ND			
3	Beryllium	Y	1.3		N	No Criteria	No Criteria	Uc	No Criteria			
4	Cadmium	Y	1.3		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)	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
6	Copper	Y	2.5		N	No detected value of B, Step 7		Yes	MEC>=C		2.22	
7	Lead	Y	2.5		N	No detected value of B, Step 7		No	MEC<C & B is ND	Narrative	2.01	
8	Mercury	Y	0.10000		Y	No detected value of B, Step 7		No	MEC<C & B is ND			
9	Nickel	Y	2.5		N	No detected value of B, Step 7		No	MEC<C & B is ND			
10	Selenium	Y	2.5		N	No detected value of B, Step 7		No	MEC<C & B is ND			
11	Silver	Y	2.5		Y	No detected value of B, Step 7		No	MEC<C & B is ND			
12	Thallium	Y	2.5		N	No detected value of B, Step 7		No	MEC<C & B is ND			
13	Zinc	Y	25		N	No detected value of B, Step 7		Yes	MEC>=C		3.05	
14	Cyanide					No detected value of B, Step 7		No	UD;Effluent ND,MDL>C & No B			
15	Asbestos	Y	0.2		N	No Criteria	No Criteria	Uc	No Criteria			
16	2,3,7,8 TCDD	Y	0.0000067	0	Y	B<=C, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
	TCDD Equivalents	N				No detected value of B, Step 7		Yes	MEC>=C	1.40E-08	2.01	2.81E-08
17	Acrolein	Y	2.5		N	No detected value of B, Step 7		No	MEC<C & B is ND			
18	Acrylonitrile	Y	1		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
19	Benzene	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
20	Bromoform	N		1.2		B<=C, Step 7		No	MEC<C & B<=C			
21	Carbon Tetrachloride	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
22	Chlorobenzene	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
23	Chlorodibromomethane	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
24	Chloroethane	Y	0.25		N	No Criteria	No Criteria	Uc	No Criteria			
25	2-Chloroethylvinyl ether	Y	1		N	No Criteria	No Criteria	Uc	No Criteria			
26	Chloroform	Y				No Criteria	No Criteria	Uc	No Criteria			
27	Dichlorobromomethane	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
28	1,1-Dichloroethane	Y	0.25		N	No Criteria	No Criteria	Uc	No Criteria			
29	1,2-Dichloroethane	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
30	1,1-Dichloroethylene	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
31	1,2-Dichloropropane	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
32	1,3-Dichloropropylene	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
33	Ethylbenzene	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
34	Methyl Bromide	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
35	Methyl Chloride	Y	0.25		N	No Criteria	No Criteria	Uc	No Criteria			
36	Methylene Chloride	Y	1.1		N	No detected value of B, Step 7		No	MEC<C & B is ND			
37	1,1,2,2-Tetrachloroethane	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
38	Tetrachloroethylene	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
39	Toluene	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
40	1,2-Trans-Dichloroethylene	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
41	1,1,1-Trichloroethane	Y	0.25		N	No Criteria	No Criteria	Uc	No Criteria			
42	1,1,2-Trichloroethane	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
43	Trichloroethylene	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
44	Vinyl Chloride	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
45	2-Chlorophenol	Y	6.2		N	No detected value of B, Step 7		No	MEC<C & B is ND			
46	2,4-Dichlorophenol	Y	6.2		N	No detected value of B, Step 7		No	MEC<C & B is ND			
47	2,4-Dimethylphenol	Y	12		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)	Y	12		N	No detected value of B, Step 7		No	MEC<C & B is ND			
49	2,4-Dinitrophenol	Y	25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
50	2-Nitrophenol	Y	6.2		N	No Criteria	No Criteria	Uc	No Criteria			
51	4-Nitrophenol	Y	12		N	No Criteria	No Criteria	Uc	No Criteria			
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	Y	12		N	No Criteria	No Criteria	Uc	No Criteria			
53	Pentachlorophenol	Y	12		Y	No detected value of B, Step 7		No	MEC<C & B is ND			
54	Phenol	Y	6.2		N	No detected value of B, Step 7		No	MEC<C & B is ND			
55	2,4,6-Trichlorophenol	Y	12		Y	No detected value of B, Step 7		No	MEC<C & B is ND			
56	Acenaphthene	Y	6.2		N	No detected value of B, Step 7		No	MEC<C & B is ND			
57	Acenaphthylene	Y	6.2		N	No Criteria	No Criteria	Uc	No Criteria			
58	Anthracene	Y	6.2		N	No detected value of B, Step 7		No	MEC<C & B is ND			
59	Benzidine	Y	25		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
60	Benzo(a)Anthracene	Y	6.2		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
61	Benzo(a)Pyrene	Y	6.2		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND	0.049	2.01	0.09830
62	Benzo(b)Fluoranthene	Y	6.2		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
63	Benzo(ghi)Perylene	Y	6.2		N	No Criteria	No Criteria	Uc	No Criteria			
64	Benzo(k)Fluoranthene	Y	6.2		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
65	Bis(2-Chloroethoxy)Methane	Y	6.2		N	No Criteria	No Criteria	Uc	No Criteria			

CTR#	Parameters	AQUATIC LIFE CALCULATIONS									LIMITS		Recommendation	Comment
		Saltwater / Freshwater / Basin Plan												
		ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	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	0.265		0.461	1.72	1.721	1.70	2.92	3.77	6.48	2.9	6.5		TMDL Limits Applied
7	Lead	0.32		0.53	4.49	4.49	1.55	6.97	3.11	13.99119	7	14		TMDL Limits Applied
8	Mercury												No Limit	
9	Nickel												No Limit	
10	Selenium												No Limit	
11	Silver												No Limit	
12	Thallium												No Limit	
13	Zinc	0.12		0.21	18.22	18.22	2.72	49.51	8.28	150.9003	49	150		TMDL Limits Applied
14	Cyanide												No Limit	
15	Asbestos												No Limit	
16	2,3,7,8 TCDD												No Limit	
	TCDD Equivalents						1.55		3.11		1.4E-08	2.8E-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	
63	Benzo(ghi)Perylene												No Limit	
64	Benzo(k)Fluoranthene												No Limit	
65	Bis(2-Chloroethoxy)Methane												No Limit	

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Lowest C or WLAs	MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?
					Freshwater		Saltwater		Human Health for consumption of:					
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot	Water & organisms	Organisms only				
66	Bis(2-Chloroethyl)Ether	ug/L								1.4	1.400			Y
67	Bis(2-Chloroisopropyl)Ether	ug/L		2.5						170000	170000	No	No	Y
68	Bis(2-Ethylhexyl)Phthalate	ug/L		2.5						5.9	5.9	No	No	Y
69	4-Bromophenyl Phenyl Ether	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
70	Butylbenzyl Phthalate	ug/L		2.5						5200	5200	No	No	Y
71	2-Chloronaphthalene	ug/L		2.5						4300	4300	No	No	Y
72	4-Chlorophenyl Phenyl Ether	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
73	Chrysene	ug/L	0.6							0.04900	0.049			Y
74	Dibenzo(a,h)Anthracene	ug/L								0.049	0.0490			Y
75	1,2-Dichlorobenzene	ug/L		0.25						17000	17000	No	No	Y
76	1,3-Dichlorobenzene	ug/L		0.25						2600	2600	No	No	Y
77	1,4-Dichlorobenzene	ug/L		0.25						2600	2600	No	No	Y
78	3,3 Dichlorobenzidine	ug/L								0.077	0.08			Y
79	Diethyl Phthalate	ug/L		2						120000	120000	No	No	Y
80	Dimethyl Phthalate	ug/L		2						2900000	2900000	No	No	Y
81	Di-n-Butyl Phthalate	ug/L		2.5						12000	12000	No	No	Y
82	2,4-Dinitrotoluene	ug/L		2.5						9.10	9.10	No	No	Y
83	2,6-Dinitrotoluene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
84	Di-n-Octyl Phthalate	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
85	1,2-Diphenylhydrazine	ug/L		0.5						0.54	0.540	No	No	Y
86	Fluoranthene	ug/L		1						370	370	No	No	Y
87	Fluorene	ug/L		2.5						14000	14000	No	No	Y
88	Hexachlorobenzene	ug/L								0.00077	0.00077			Y
89	Hexachlorobutadiene	ug/L		0.25						50	50.00	No	No	Y
90	Hexachlorocyclopentadiene	ug/L		2.5						17000	17000	No	No	Y
91	Hexachloroethane	ug/L		0.5						8.9	8.9	No	No	Y
92	Indeno(1,2,3-cd)Pyrene	ug/L								0.049	0.0490			Y
93	Isophorone	ug/L		0.5						600	600.0	No	No	Y
94	Naphthalene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
95	Nitrobenzene	ug/L		2.5						1900	1900	No	No	Y
96	N-Nitrosodimethylamine	ug/L		0.00023						8.10	8.10000	No	No	N
97	N-Nitrosodi-n-Propylamine	ug/L								1.40	1.400			Y
98	N-Nitrosodiphenylamine	ug/L		2.5						16	16.0	No	No	Y
99	Phenanthrene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
100	Pyrene	ug/L		2.5						11000	11000	No	No	Y
101	1,2,4-Trichlorobenzene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
102	Aldrin	ug/L					1.30			0.00014	0.00014			Y
103	alpha-BHC	ug/L		0.001						0.013	0.0130	No	No	Y
104	beta-BHC	ug/L		0.002						0.046	0.046	No	No	Y
105	gamma-BHC	ug/L		0.0015			0.16			0.063	0.063	No	No	Y
106	delta-BHC	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
107	Chlordane	ug/L					0.09	0.004		0.00059	0.00059			Y
108	4,4'-DDT	ug/L	0.6							0.00059	0.00059			Y
109	4,4'-DDE (linked to DDT)	ug/L								0.00059	0.00059			Y
110	4,4'-DDD	ug/L								0.00084	0.00084			Y
111	Dieldrin	ug/L					0.71	0.0019		0.00014	0.00014			Y
112	alpha-Endosulfan	ug/L		0.0015			0.034	0.0087		240	0.0087	No	No	Y
113	beta-Endolsulfan	ug/L		0.0015			0.034	0.0087		240	0.0087	No	No	Y
114	Endosulfan Sulfate	ug/L		0.002						240	240	No	No	Y
115	Endrin	ug/L		0.002			0.037	0.0023		0.81	0.0023	No	No	Y
116	Endrin Aldehyde	ug/L		0.003						0.81	0.81	No	No	Y
117	Heptachlor	ug/L					0.053	0.0036		0.00021	0.00021			Y
118	Heptachlor Epoxide	ug/L					0.053	0.0036		0.00011	0.00011			Y
119-125	PCBs sum (2)	ug/L	0.6							0.00017	0.00017			Y
126	Toxaphene	ug/L					0.21	0.0002		0.00075	0.0002			Y

CTR#	Parameters	REASONABLE POTENTIAL ANALYSIS (RPA)								HUMAN HEALTH CALCULATIONS		
										Organisms only		
		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)	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
66	Bis(2-Chloroethyl)Ether	Y	6.2		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
67	Bis(2-Chloroisopropyl)Ether	Y	6.2		N	No detected value of B, Step 7		No	MEC<C & B is ND			
68	Bis(2-Ethylhexyl)Phthalate	Y	31		Y	No detected value of B, Step 7		No	MEC<C & B is ND			
69	4-Bromophenyl Phenyl Ether	Y	6.2		N	No Criteria	No Criteria	Uc	No Criteria			
70	Butylbenzyl Phthalate	Y	12		N	No detected value of B, Step 7		No	MEC<C & B is ND			
71	2-Chloronaphthalene	Y	6.2		N	No detected value of B, Step 7		No	MEC<C & B is ND			
72	4-Chlorophenyl Phenyl Ether	Y	6.2		N	No Criteria	No Criteria	Uc	No Criteria			
73	Chrysene	Y	6.2		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND	0.049	2.01	0.09830
74	Dibenzo(a,h)Anthracene	Y	12		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
75	1,2-Dichlorobenzene	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
76	1,3-Dichlorobenzene	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
77	1,4-Dichlorobenzene	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
78	3,3 Dichlorobenzidine	Y	12		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
79	Diethyl Phthalate	Y	6.2		N	No detected value of B, Step 7		No	MEC<C & B is ND			
80	Dimethyl Phthalate	Y	6.2		N	No detected value of B, Step 7		No	MEC<C & B is ND			
81	Di-n-Butyl Phthalate	Y	12		N	No detected value of B, Step 7		No	MEC<C & B is ND			
82	2,4-Dinitrotoluene	Y	6.2		N	No detected value of B, Step 7		No	MEC<C & B is ND			
83	2,6-Dinitrotoluene	Y	6.2		N	No Criteria	No Criteria	Uc	No Criteria			
84	Di-n-Octyl Phthalate	Y	12		N	No Criteria	No Criteria	Uc	No Criteria			
85	1,2-Diphenylhydrazine	Y	12		Y	No detected value of B, Step 7		No	MEC<C & B is ND			
86	Fluoranthene	Y	6.2		N	No detected value of B, Step 7		No	MEC<C & B is ND			
87	Fluorene	Y	6.2		N	No detected value of B, Step 7		No	MEC<C & B is ND			
88	Hexachlorobenzene	Y	6.2		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
89	Hexachlorobutadiene	Y	0.25		N	No detected value of B, Step 7		No	MEC<C & B is ND			
90	Hexachlorocyclopentadiene	Y	12		N	No detected value of B, Step 7		No	MEC<C & B is ND			
91	Hexachloroethane	Y	6.2		N	No detected value of B, Step 7		No	MEC<C & B is ND			
92	Indeno(1,2,3-cd)Pyrene	Y	12		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
93	Isophorone	Y	6.2		N	No detected value of B, Step 7		No	MEC<C & B is ND			
94	Naphthalene	Y	0.25		N	No Criteria	No Criteria	Uc	No Criteria			
95	Nitrobenzene	Y	12		N	No detected value of B, Step 7		No	MEC<C & B is ND			
96	N-Nitrosodimethylamine					No detected value of B, Step 7		No	Ud;MEC<C & no B			
97	N-Nitrosodi-n-Propylamine	Y	6.2		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
98	N-Nitrosodiphenylamine	Y	6.2		N	No detected value of B, Step 7		No	MEC<C & B is ND			
99	Phenanthrene	Y	6.2		N	No Criteria	No Criteria	Uc	No Criteria			
100	Pyrene	Y	6.2		N	No detected value of B, Step 7		No	MEC<C & B is ND			
101	1,2,4-Trichlorobenzene	Y	0.25		N	No Criteria	No Criteria	Uc	No Criteria			
102	Aldrin	Y				No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
103	alpha-BHC	Y				No detected value of B, Step 7		No	MEC<C & B is ND			
104	beta-BHC	Y	0.034		N	No detected value of B, Step 7		No	MEC<C & B is ND			
105	gamma-BHC	Y	0.023		N	No detected value of B, Step 7		No	MEC<C & B is ND			
106	delta-BHC	Y	0.023		N	No Criteria	No Criteria	Uc	No Criteria			
107	Chlordane	Y	0.23		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
108	4,4'-DDT	Y	0.023		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	0.023		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
110	4,4'-DDD	Y	0.023		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
111	Dieldrin	Y	0.023		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
112	alpha-Endosulfan	Y	0.023		Y	No detected value of B, Step 7		No	MEC<C & B is ND			
113	beta-Endolsulfan	Y	0.023		Y	No detected value of B, Step 7		No	MEC<C & B is ND			
114	Endosulfan Sulfate	Y	0.023		N	No detected value of B, Step 7		No	MEC<C & B is ND			
115	Endrin	Y	0.023		Y	No detected value of B, Step 7		No	MEC<C & B is ND			
116	Endrin Aldehyde	Y	0.023		N	No detected value of B, Step 7		No	MEC<C & B is ND			
117	Heptachlor	Y	0.034		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
118	Heptachlor Epoxide	Y	0.034		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
119-125	PCBs sum (2)	Y	0.29		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND	0.00017	2.01	0.00034
126	Toxaphene	Y	0.57		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			

CTR#	Parameters	AQUATIC LIFE CALCULATIONS									LIMITS		Recommendation	Comment
		Saltwater / Freshwater / Basin Plan												
		ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	Lowest AMEL	Lowest MDEL		
66	Bis(2-Chloroethyl)Ether												No Limit	
67	Bis(2-Chloroisopropyl)Ether												No Limit	
68	Bis(2-Ethylhexyl)Phthalate												No Limit	
69	4-Bromophenyl Phenyl Ether												No Limit	
70	Butylbenzyl Phthalate												No Limit	
71	2-Chloronaphthalene												No Limit	
72	4-Chlorophenyl Phenyl Ether												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		TMDL Limits Applied
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		TMDL Limits Applied
126	Toxaphene												No Limit	

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

ATTACHMENT K – EFFLUENT LIMIT CALCULATION BASED ON WLAS IN HARBOR TOXICS TMDL

Attachment K
Effluent Limit Calculation Based on WLAs in Harbor Toxics TMDL

All Limitation Units in this table are in ug/L

WLAs for Aquatic Life

	WLA-ug/L	CV	ECA Multiplier	LTA	LTA Multplier		MDEL	MDEL Mass	AMEL	AMEL Mass
					MDEL	AMEL(4)				
Copper	3.73	0.75	0.461	1.719	3.767	1.697	6.476	0.016	2.917	0.007
Lead	8.52	0.60	0.527	4.494	3.114	1.552	13.996	0.034	6.976	0.017
Zinc	85.6	1.91	0.213	18.215	8.282	2.717	150.859	0.362	49.498	0.119

WLAs for Human Health

	WLA-ug/L	CV	MDEL/AMEL Multiplier	MDEL	MDEL Mass	AMEL	AMEL Mass
4,4'-DDT	0.00059	0.60	2.01	0.001186	2.85E-06	0.00059	1.42E-06
Total PCBs	0.00017	0.60	2.01	0.000342	8.21E-07	0.00017	4.08E-07

Rounding to Two Significant Digits

	MDEL	MDEL Mass	AMEL	AMEL Mass
Copper	6.5	0.016	2.9	0.007
Lead	14	0.034	7	0.017
Zinc	150	0.36	49	0.12
4,4'-DDT	0.0012	0.0000028	0.00059	1.4E-06
Total PCBs	0.00034	8.2E-07	0.00017	4.1E-07

ATTACHMENT L – SUMMARY OF REASONABLE POTENTIAL ANALYSIS-AMMONIA

Reasonable Potential Analysis for Ammonia
Vopak Terminal Long Beach

	Receiving Water		
	pH	Temp. (Deg. C)	Salinity (ppt.)
10th Percentile	7.86	14.77	32.00
50th Percentile	8.07	16.83	33.60
90th Percentile	8.26	19.17	35.00

Data are primarily from Long Beach Generation Station receiving water monitoring program, which were collected between May 2010 to May 2015.

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

	Un-ionized-NH3 Objective [NH3]	Presure (atm)	pH	Temperature (K)	Salinity (ppt)	Molal Ionic Strength (i)	pK_a^s	Total Ammonia Objectives (mg/L NH3)
1-hour Average	0.233	1	8.26	292.32	32.00	0.66	9.321428	4.364
4-day Average	0.035	1	8.07	289.98	33.60	0.69	9.325383	1.182

Molal ionic strength (i) = $19.9273\ S\ (1000-1.005109\ S)^{-1}$

$pKa^s = 0.116 * i + 9.245$

Total Ammonia = $[NH3]+[NH_4^+] = [NH_3] + [NH_3]*10\ \hat{}\ (pK_a^s + 0.0324\ (298-T) + 0.0415\ P/T - pH)$

The 1-hour Average objective is calculated using pH and temperature at 90th Percentile and salinity at 10th Percentile, which generates maximum water quality ammonia objective value.

The 4-day Average objective is calculated using pH, temperature, and salinity at 50th Percentile.